પરીપત્ર

વિષય: રાષ્ટ્રીય શિક્ષણ નીતિ-૨૦૨૦ અંતર્ગત સ્નાતકકક્ષાએ પરીક્ષાના પ્રશ્નપત્રનાં માળખા બાબત.

સંદર્ભ:
1. કેસીજી, ગુજરાત રાજ્ય શિક્ષણ વિભાગના પરીપત્ર ક્રમાંક:KCG/NEP-2020/2023-24/865, Date:26/07/2023
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3. એકેડેમિક કાઉન્સિલની તા: ૧૧/૧૦/૨૦૨૩ ની બેઠક નંબર-૨૦ નો ઠરાવ ક્રમાંક 20.46.03

ભક્તકવિ નરસિંહ મહેતા યુનિવર્સિટી સંલગ્ન કોલેજોના આચાર્યશ્રીઓ, માન્ય સંસ્થાઓના વડાઓ તેમજ વિદ્યાર્થી ભાઇઓ તથા બહેનોને જણાવવાનું કે, શૈક્ષણિક વર્ષ : ૨૦૨૩-૨૪ થી સ્નાતક કક્ષાએ **રાષ્ટ્રીય શિક્ષણ નીતિ-૨૦૨૦ મુજબના અભ્યાસક્રમોની અમલવારી કરવામાં આવેલ હોય તો સેમેસ્ટર-૧ થી સ્નાતક કક્ષાની આર્ટસ, કોમર્સ અને સાયન્સ વિદ્યાશાખાઓના (કાઉન્સિલ સિવાયનાં) ઉપરોક્ત બન્ને સંદર્ભ પરિપત્રો મુજબ પરીક્ષાના પ્રશ્નપત્રનું માળખું નક્કી કરવામાં આવેલ છે જેને સંદર્ભ ત્રણથી મંજુર કરવામાં આવેલ છે. અત્રેની** યુનિવર્સિટી ખાતે શૈક્ષણિક વર્ષ : ૨૦૨૩-૨૪ માં સ્નાતક કક્ષાએ **સેમેસ્ટર-૧માં જે વિદ્યાર્થીઓએ પ્રવેશ મેળવેલ હોય તેવા તમામ વિદ્યાર્થીઓની પરીક્ષાનું માળખુ નીચે મુજબ રહેશે. જેની સર્વે સંબંધીતોએ ખાસ નોંધ લેવી.**

ક્રમ	વિગત
(૧)	ચાર ક્રેડિટ ધરાવતા વિષયોના કુલ ગુણ ૧૦૦ રહેશે અને બે ક્રેડિટ ધરાવતા વિષયોના કુલ ગુણ ૫૦ રહેશે.
(૨)	દરેક વિષયના કુલગુણ પૈકી, ૫૦% ગુણ આંતરીક(કોલેજ કક્ષાએથી) રહેશે તેમજ ૫૦% ગુણ બાહ્ય(યુનિવર્સિટી કક્ષાએથી) રહેશે.
(૩)	જે વિષયો પ્રેક્ટીકલ છે તેમાં પણ ઉપરોક્ત નિયમ જ લાગુ પડશે.
(૪)	દરેક વિષયોની સતત અને વ્યાપક મૂલ્યાંકન(આંતરીક પરીક્ષા:થીયરી અને પ્રેક્ટીકલ) જે ૫૦% લેવાની છે તેમાંથી ૫૦% ની મીડ ટર્મ પરીક્ષા લેવાની રહેશે અને બાકીના ૫૦%માં Classroom participation, Case Analysis and Presentation, Assignments, Tutorials, Slip Test (Announced/Surprised), Quizzes, Attendance, Lab Work, Viva-Voce વગેરે નીચે આપેલ ટેબલમાંથી અથવા આમાંથી કોઈના પણ સંયોજનથી લઇ શકાશે.

Written Mode	Oral Mode	Practical Mode	Integrated Mode
1. Semester Exam 2. Class Test 3. Open book exam/test	1. Viva/Oral exam 2. Group Discussion 3. Role Play	1. Lab work 2. Computer simulation	1. Paper presentation /Seminar

	4. Open note exam/test 5. Self-test/ Online test 6. Essay/Article writing 7. Quizzes/Objective test 8. Class assignment 9. Home assignment 10. Reports Writing 11. Research/Dissertation 12. Case Studies	4. Authentic Problem Solving 5. Quiz 6. Open Book Reading 7. Interview	Virtual labs 3. Craft work 4. Co-curricular work	2. Field Assignment 3. Poster Presentation
	આ વિષે વિસ્તૃત માહિતી કેસીજી, ગુજરાત રાજ્ય શિક્ષણ વિભાગ દ્વારા બહાર પાડવામાં આવેલ SoP પેજ નં.૧૨૨ થી ૧૨૭ પર આપેલ છે જે આ સાથે સામેલ છે.			
(૫)	ચાર ક્રેડીટની યુનિવર્સિટી દ્વારા લેવાનાર પરીક્ષાના પ્રશ્નપત્રનું પરિરૂપ દસ ગુણનાં પાંચ પ્રશ્નો, કુલ ગુણ ૫૦ અને યુનિવર્સિટી દ્વારા લેવાનાર બે ક્રેડીટની પરીક્ષાના પ્રશ્નપત્રનું પરિરૂપ ત્રણ પ્રશ્નોમાં દસ ગુણના બે અને પાંચ ગુણનો એક એમ કુલ ૨૫ માર્ક્સનાં પ્રશ્નો રહેશે.			
(૬)	ચાર ક્રેડિટ ધરાવતા વિષયોની યુનિવર્સિટી દ્વારા લેવામાં આવતી પરીક્ષાનો સમય ૨:૦૦ કલાક રહેશે અને બે ક્રેડિટ ધરાવતા વિષયોની યુનિવર્સિટી દ્વારા લેવામાં આવતી પરીક્ષાનો સમય ૧:૦૦ કલાક રહેશે.			

20/10/2023

એકેડેમિક ઓફિસર

બીડાણ : ઉપરોક્ત સંદર્ભ પત્ર ૧ અને ૨ ની નકલ.

નં : બીકેએનએમયુ/એકેડેમિક/૧૯૩૮/૨૦૨૩
ભક્તકવિ નરસિંહ મહેતા યુનિવર્સિટી,
ગવર્નમેન્ટ પોલીટેકનીક કેમ્પસ,
ભક્તકવિ નરસિંહ મહેતા યુનિવર્સિટી રોડ, ખડિયા, જૂનાગઢ-૩૬૨૨૬૩
તા. ૨૦/૧૦/૨૦૨૩

પ્રતિ,

- યુનિવર્સિટી સંલગ્ન કોલેજોના આચાર્યશ્રીઓ, માન્ય સંસ્થાઓના વડાઓ તેમજ વિદ્યાર્થી ભાઇઓ તથા બહેનો તરફ...

નકલ સાદર રવાના:-

- માન.કુલપતિશ્રીના અંગત સચિવશ્રી (જાણ અર્થે)
- આઇ.ટી. સેલ (યોગ્ય કાર્યવાહી તેમજ વેબસાઇટ પર પ્રસિધ્ધ થવા અર્થે.)

Azadi Ka Amrit Mahotsav

Education Department
Government of Gujarat

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Standard Operating Procedure for Implementation of National Education Policy-2020 for the State of Gujarat

(Higher Education Institutions of Gujarat)

July 2023

Message

Education has always been the cornerstone of any thriving society, and it is with this understanding that we present the National Education Policy. Our vision for education is one that empowers every individual, regardless of their background, to reach their fullest potential and contribute meaningfully to the nation's progress. As we embark on this transformative journey, I urge all stakeholders, including educators, parents, students, and policymakers, to join hands and work together in shaping the future of our nation.

Education policy is a comprehensive framework encompassing principles, guidelines, decisions, laws, and rules governing the functioning of the education system, all with the common objective of elevating the standard and effectiveness of education. National Education Policy-2020 is going to bring key changes in education system in the 21st century. This policy is based on student-centric approach i.e., students can select the course as per their choice and skills and pave their own career path.

Gujarat Government is keen and enthusiastic to implement National Education Policy-2020 aiming to bring the transformational changes in the education sector of Gujarat. Education Department of Gujarat State has undertaken several steps towards achievement of these goals with thrust on outcome based and experiential learning. After multiple levels of discussion with the stakeholders, Education Department of Gujarat State has passed Government Resolution towards formation of 'Common Curriculum and Credit Framework for Undergraduate Program in order to maintain the uniform credit structure among all Higher Education Institutions in the State of Gujarat.

As a step ahead towards developing a qualitative and uniform education system, Education Department of Gujarat is releasing a handbook of Standard Operating Procedure (SOP) for all Higher Education Institutions of Gujarat State for effective implementation of NEP 2020 guidelines. This SOP is a set of guidelines and instructions that aims at improving the quality of education and performance of every Higher Education Institutions in the State of Gujarat.

Lastly, let us remember that education is a collective responsibility. The government, private sector, civil society, and communities must unite to create an ecosystem that supports education in all its forms.

Together, let us embark on this journey towards a brighter future for our state and our nation. A future where education knows no boundaries and empowers every individual to rise above challenges and create a better world for themselves and those around them.

Thank you, and let us make history with the National Education Policy!

RUSHIKESH PATEL

Minister,
Health & Family Welfare and Medical Education, Higher and Technical Education,
Law, Justice, Legislative & Parliamentary Affairs,
Government of Gujarat

Message

Education contributes in the robust development of a learner and instils in him values and beliefs which will help him to become responsible citizen. It aims to equip the student with the skills needed to become a productive member of society. In order to achieve this objective, NEP-2020 emphasizes on Experiential, Skill based, Value added education, and integration of Indian Knowledge System into mainstream of education.

Education Department, Government of Gujarat is committed to make Gujarat a global education hub by adopting a globally accepted education system assimilating it with, our ancient knowledge system. In order to achieve this goal, Education Department of Gujarat has passed Government Resolution for formation of "Common Curriculum and Credit Framework for Undergraduate Programme".

I am sure this Standard Operating Procedure (SOP) is going to be helpful to all Higher Education Institutions for smooth and effective implementation of National Education Policy-2020.

PRAFUL PANSHERIYA
Minister of State,
Parliamentary Affairs, Primary,
Secondary and Adult Education, Higher Education,
Government of Gujarat

Mukesh Kumar, IAS
Principal Secretary
(Higher & Technical Education)

Education Department
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Date : 25 JUL 2023

PREFACE

This National Education Policy 2020 is the first education policy of the 21st century and aims to address the growing developmental imperatives of our country. As one of the front-runners, Government of Gujarat is committed to implement the NEP-2020 in a time-bound manner by keeping its objective in consideration.

The Government constituted NEP Task Force, which comprised of academicians from Universities, Educational Experts and Administrative Officers of state to channelise the implementation of NEP 2020. Apex and Steering committees were constituted under the guidance of Vice Chancellors of Universities.

The committees sought suggestions from various stakeholders (Vice Chancellors, Faculties, Industries, and Students' Association) to prepare common curriculum and credit framework. In accordance with the suggestions received, the Education Department incorporated the views as per UGC norms and declared "Common Curriculum and Credit Framework for UG Programme". The Government Resolution was released on 11th July 2023 with objectives of maintaining uniformity of credit distribution and curriculum framework among all Higher Education Institutions of the State of Gujarat, effective from current academic year 2023-24.

Standard Operating Procedure (SOP) is an effective tool to implement the NEP-2020 in all Higher Education Institutions of State of Gujarat. This SOP is prepared to provide stepwise detailed instructions for qualitative and effective implementation of NEP-2020 so that various functionaries viz Higher Education Institutions, Students, and other stakeholders can carry out the task with efficacy.

We would like to take this opportunity to express our gratitude to Government of Gujarat, Vice-Chancellors, Faculties and various Stakeholders for their extended support and guidance in formulation of the SOP.

Gandhinagar
25/07/2023

Mukesh Kumar, IAS
Principal Secretary
Education Department
(Higher & Technical)
Government of Gujarat

Tel. : 079-23251306, 23251308 Fax : 079-23254697 E-mail : secedu@gujarat.gov.in

Acknowledgement

National Education Policy-2020 (NEP 2020) is a new platform for cultural and educational development of India. It is one of the key initiatives undertaken by the Hon'ble Prime Minister of India Shri Narendra Modi to create a new India. NEP-2020 has created a new dimension by integrating modern and global educational techniques with Indian Knowledge System. This policy will add to the continuum of the overall development of the nation. The Government of Gujarat and its Education Department are committed to an effective implementation of the NEP-2020. Collective efforts to implement NEP-2020 in a seamless manner in higher education institutions across Gujarat has led to the publication of the present booklet 'Standard Operating Procedures' (S.O.P.). It is hoped that all stakeholders would be able to easily use this booklet to understand this policy. The publication of handbook of Standard Operating Procedure (S.O.P.) for efficacious implementation of the National Education Policy is published on the basis of intensive study, opinions, suggestions and guidance of scholars and educators.

The Hon'ble Cabinet Minister of Gujarat State Education Department Mr. Rishikeshbhai Patel, State Level Education Minister Mr. Prafulbhai Pansheria, Principal Secretary of Education Department (Higher & Technical Education) Mr. Mukesh Kumar, Director of Higher Education Mr. P. B. Pandya, Advisor at KCG and Former Vice Chancellor, Gujarat University Prof. A. U. Patel, officials of Education Department have guided and contributed in the preparation of this S.O.P handbook. The team of language expert professors of government colleges have played a significant role in preparing the English and Gujarati versions of this handbook. The young staff members of KCG have also been of immense help.

The Government of Gujarat, the Education Department, KCG and the team of expert teachers anticipate that the publication of this S.O.P. handbook will ease the process of implementation of NEP-2020 in the State of Gujarat.

Glossary:

ABC	: Academic Bank of Credit
AC	: Autonomous degree granting College
AEC	: Ability Enhancement Course
AI	: Artificial Intelligence
AICTE	: All India Council for Technical Education
BCI	: Bar Council of India
CAD	: Computer Aided Design
CBCS	: Choice Based Credit System
CCFUP	: Curriculum and Credit Framework for Undergraduate Programme
CEC	: Consortium of Educational Communication
CEE	: Continuous and Comprehensive Evaluation
CGPA	: Cumulative Grade Point Average
CoA	: Council of Architecture
EOC	: Equal Opportunity Cell
GER	: Gross Enrolment Ratio
GoG	: Government of Gujarat
HEI	: Higher Education Institution
ICT	: Information and Communications Technology
IGNOU	: Indira Gandhi National Open University
IIM-B	: Indian Institute of Management- Bangalore
IKS	: Indian Knowledge System
KCG	: Knowledge Consortium of Gujarat
LO	: Learning Outcome
LOBE	: Learning Outcome Based Education
LoI	: Letter of Intent
MCI	: Medical Council of India
MDC	: Multi-Disciplinary Course
MERU	: Multidisciplinary Education and Research University
MIL	: Modern Indian Language
MOOC	: Massive Open Online Course
MoU	: Memorandum of Understanding
NAAC	: National Assessment and Accreditation Council
NAD	: National Academic Depository
NCC	: National Cadet Corps
NCrF	: National Credit Framework
NCTE	: National Council of Teacher Education
NEP	: National Education Policy
NGO	: Non-Governmental Organisation
NHEQF	: National Higher Education Qualification Framework
NITTTR	: National Institutes of Technical Teachers and Training Research
NPTEL	: National Programme on Technology Enhanced Learning

NRF	: National Research Foundation
NSQF	: National Skill Qualification Framework
NSS	: National Service Scheme
ODL	: Open and Distance Learning
OJT	: On-the-Job Training
PCI	: Pharmacy Council of India
PG	: Post-Graduate
Ph.D.	: Doctor of Philosophy
PMMMNMTT	: Pandit Madan Mohan Malviya National Mission on Teacher Training
PwD	: Persons with Disabilities
RDC	: Research and Development Cell
RIMS	: Research Information Management System
RP	: Research Project
SC	: Schedule Caste
SEC	: Skill Enhancement Course
SEE	: Semester End Evaluation
SGPA	: Semster Grade Point Average
SKP	: Skill Knowledge Provider
SLM	: Self Learning Materials
SOP	: Standard Operating Procedure
SPOC	: Single Point Of Contact
ST	: Schedule Tribe
STEM	: Science, Technology, Engineering, and Mathematics
SWAYAM	: Study Webs of Active-Learning for Young Aspiring Minds
UG	: Under-Graduate
UGC	: University Grants Commission
VAC	: Value Added Course

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Chapter 1
Overview of NEP-2020 Implementation

1. Overview of NEP 2020 Implementation

This manual of Standard Operating Procedure (SOP) is a handbook provided to the various functionaries for the effective implementation of the NEP-2020. The manual is an outcome of several discussions held in Apex and Task Force committee meetings. In addition, consultations were also held with the State Universities who are keen to ensure its success. After receiving inputs from all stakeholders, KCG has formulated the following SOP.

This SOP will be applicable to all the Higher Education Institutions (HEIs) operational in the State of Gujarat.

1.1 Major Problems Faced by the Higher Education

Some of the major problems currently faced by the higher education system in India:

1. A severely fragmented higher education system
2. Less emphasis on the development of cognitive skills and learning outcomes
3. A rigid separation of disciplines, with early specialisation and streaming of students into narrow areas of study
4. Limited access particularly in socio-economically disadvantaged areas, with few HEIs that teach in local languages
5. Limited teacher and institutional autonomy
6. Inadequate mechanisms for merit-based career management and progression of faculty and institutional leaders
7. Lesser emphasis on research at most universities and colleges, and lack of competitive peer reviewed research funding across disciplines
8. Suboptimal governance and leadership of HEIs
9. An ineffective regulatory system and
10. Large affiliating universities resulting in low standards of undergraduate education

1.2 Objectives of Standard Operating Procedure (SOP)

This manual of SOP has been developed:

1. To provide stepwise detailed instructions on how to carry out a task to implement the NEP-2020, so that various functionaries (HEIs, Students, and other stakeholders) can carry out a task correctly every time.
2. To serve as a guide for performing specific tasks.
3. To articulate the flow of work assignments, roles, and responsibilities of the concerned authorities
4. To ensure the proper execution of a variety of work processes from start to end.
5. To remove the problem faced by the higher education system to implement the key changes suggested in NEP-2020 i.e.

A. Moving towards a higher educational system consisting of large, multidisciplinary universities and colleges that offer medium of instruction or programmes in local/Indian languages.
B. Moving towards a more multidisciplinary undergraduate education.

C. Moving towards faculty and institutional autonomy in preparing the curriculum and pedagogy-based delivery of education.
D. Revamping curriculum, pedagogy, assessment, and student support for enhanced student experiences.
E. Reaffirming the integrity of faculty and institutional leadership positions training and research
F. Proper liaison with National Research Foundation to get fund for outstanding peer-reviewed research and to actively carry out seed research in universities and colleges.
G. Governance of HEIs by high qualified independent boards having academic and administrative autonomy.
H. "Light but Tight" regulation by Government of Gujarat
I. Increased access, equity, and inclusion through a range of measures, including greater opportunities for outstanding public education, online education, and Open Distance Learning (ODL), and all infrastructure and learning materials are also accessible and available to learners with disabilities

1.3 Important Notifications and Guidelines released from UGC & Ministry of Education, Government of India for reference.

It is suggestive to all the stakeholders to read all the notifications/guidelines released by the UGC and Ministry of Education, with respect to reforms suggested in NEP-202. Some of the important notification and guidelines are:

1. NEP-2020-English: From page No. 33-Major problems faced by the higher education system and key changes required in current education system (https://www.education.gov.in/sites/upload_files/mhrd/files/NEP_Final_English_0.pdf)
2. Gujarati version of NEP-2020 (https://www.education.gov.in/sites/upload_files/mhrd/files/nep/2020/GUJARATI.pdf)
3. IKS in Higher Education Curricula: Details of course and curriculum of IKS which will be integral part of current education system (https://www.ugc.gov.in/pdfnews/6436045_Guidelines-IKS-in-HE-Curricula.pdf)
4. Training of faculty on IKS: Need and process of training of faculties on IKS (https://www.ugc.gov.in/pdfnews/3746302_Guidelines-for-TrainingOrientation-of-Faculty-on-Indian-Knowledge-System-(IKS).pdf)
5. Multiple Entry and Exit Options: The mechanism to adopt flexibility of multiple entry and exit in all HEIs to facilitate the students during academic cycle (https://www.ugc.gov.in/e-book/GL%20Multipe%20Entry%20Exit.pdf)
6. Apprenticeship/Internship: Objective, process and roles of HEIs and Industries to implement internship/apprenticeship (https://www.ugc.gov.in/pdfnews/9105852_ugc-guidelines_ApprenticeshipInternship.pdf)
7. Open and Distance Learning (ODL): Guideline, process, and eligible institutes to provide the ODL mode of learning. https://www.ugc.gov.in/pdfnews/7421799_Current-Regulations.pdf
8. Curriculum and Credit Framework: Suggestive points by UGC to design the course curriculum and define the credit structure (https://www.ugc.gov.in/pdfnews/7193743_FYUGP.pdf)

9. Academic Bank of Credits: Objective, function and implementation methodology of Academic Bank of Credits into HEIs (https://www.ugc.gov.in/pdfnews/9327451_Academic-Bank-of-Credicts-in-Higher-Education.pdf)
10. Transforming Higher Education: Objective, approach and readiness of the institution to transform into multidiscipline institutions (https://www.ugc.gov.in/pdfnews/5599305_Guidelines-for-Transforming-Higher-Education-Institutions-into-Multidisciplinary-Institutions.pdf)
11. National Credit Framework: Assignment of credits, Implementation, and operationalization of credit framework through ABC (https://www.ugc.gov.in/pdfnews/9028476_Report-of-National-Credit-Framework.pdf)
12. National Higher Education Qualification Framework: NHEQF level qualification specification and Course Learning Outcome (https://www.ugc.gov.in/pdfnews/9028476_Report-of-National-Credit-Framework.pdf)
13. Blended mode of Learning: Infrastructure readiness at HEIs, implementation process, assessment and evaluation and suggested framework for blended mode of learning. (https://www.ugc.gov.in/pdfnews/6100340_Concept-Note-Blended-Mode-of-Teaching-and-Learning.pdf)

Chapter 2
Implementation Roadmap of NEP-2020 for the State of Gujarat

2. Implementation Roadmap of NEP-2020 for the State of Gujarat

Government of Gujarat is committed to implement the NEP-2020 by keeping its objective into consideration and has taken several steps for enhancing the reach and quality of Higher and Technical education in the state. GoG has already prepared the roadmap for implementation of NEP-2020 and released it on January-2022. After multiple level of meeting and discussion, it has decided to implement the NEP-2020 in different phases, based on priority area of implementation. Followings are the important areas of implementation (Major Reforms):

1. Institutional Restructuring and Consolidation
2. Toward a more holistic and multidisciplinary education
3. Optimal learning environments and support of students
4. Motivated, energized, and capable faculty
5. Equity and Inclusion in higher education
6. Teacher Education
7. Re-imagine vocational education
8. Catalyzing quality academic research in all fields through the National Research Foundation (NRF)
9. Transforming the regulatory system of higher education
10. Effective governance, accreditation, and quality reforms
11. Internationalization of education
12. Embedded Internship based education
13. Effective use of technology and integration
14. Streamline Academic Bank of Credits and mechanism for multiple entry and multiple exit
15. Promote Indian Knowledge System in mainstream education
16. Support online and ODL mode of learning
17. Research and Innovation intensive higher education institutions
18. Support of Placement

2.1 Implementation Process

All HEIs shall be required to adhere to UGC guideline/norms, and the standard operating procedures (SOPs) notified by the State Government from time to time. These include changes in guidelines and modifications in procedures of implementation.

2.2 Implementation in Phases

The overall implementation plan is organized around three phases: Phase I, Phase II and Phase III spread over a period of three years. Important initiatives in ***Phase I*** are given in the Table 1 below. However, the times are indicative and some of the milestones may be prioritised earlier or later, as needed.

Table 1

Phase	Timeframe	Initiatives
Phase I	Within One Year	• Adaptation of Common Credit and Curriculum Framework • Course Curriculum and Pool of Courses • Academic Bank of Credit and Mechanism for inter-university credit transfer • Adaptation of Multiple Entry and Exit System • Promotion of Indian Knowledge System • Embedded Internship/Apprenticeship • Online and ODL mode of Learning • Evaluation Reforms • Transforming of Higher Education System • Internship/Apprenticeship/OJT • Internationalization of Higher Education

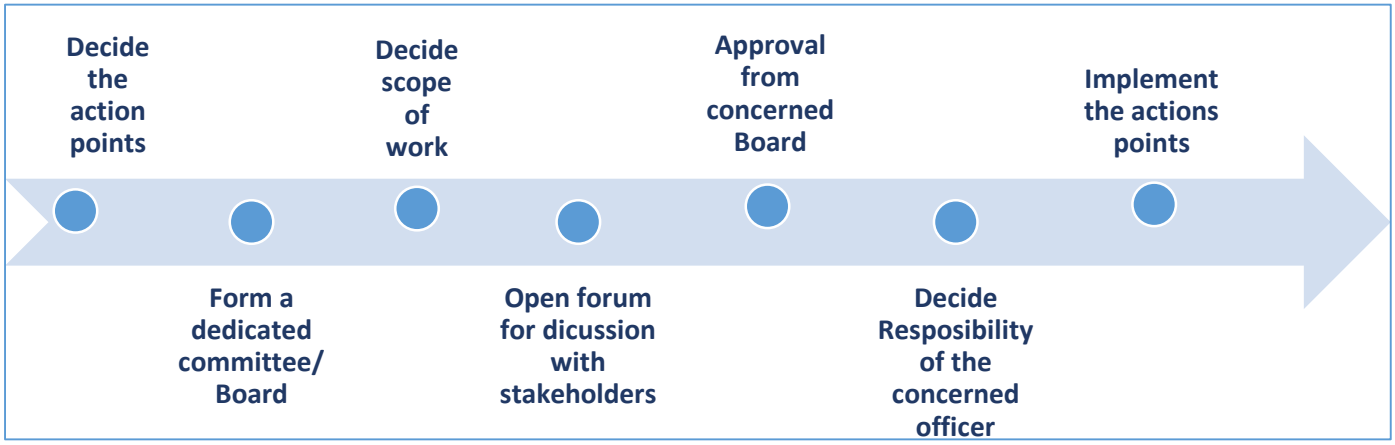
2.3 Flexibility in Timeframe

For smooth implementation of NEP-2020, it is important that all tasks are completed within the timeframe allocated for it. However, the flexibility will be granted to the HEIs only in special case after written permission and its approval from concerned authorities.

2.4 Implementation Pathway

HEIs shall decide the flow chart before the implementation of initiatives.

Chart 1: A standard flow chart



2.5 Composition and Responsibilities of NEP Committees of the State

The State Government is committed to the implementation of the National Education Policy-2020 and is continuously taking effective steps for its implementation.
As per GR No. HRE/2022/111/K-1 released dated 24.01.2023, a task force committee has been formed to implement the new NEP-2020 in the higher education institution at the state level. To achieve the purpose of NEP-2020 and its effective implementation in state and private universities, Committee has finalized the priority-based roadmap for NEP-2020 implementation. The dedicated

NEP Cell has been formed to implement these roadmaps smoothly and successfully in the state of Gujarat. Apex and Steering Committees were also formed separately, and these committees will continue to work under the guidance of the nominated Vice Chancellors.
Finally, the task force decided to prepare the dedicated cell for proper implementation of NEP-2020. The Task force committee will evaluate the report submitted and review the progress made.

Table 2

Sr. No.	Group/Cell	Action Points
01	Learner Centric Education	• Multidisciplinary Education • Academic Bank of Credit • Multiple Entry and exit • Adaptation of guidelines on NHEQF and develop the Curriculum and credit framework for the Undergraduate Programme • Inclusive, equitable, and affordable education
02	Digital Learning	• ODL and Online Programme • Digital Nodal Center
03	Industry-Institute Collaboration	• Internship/Apprenticeship embedded degree programme • Research and Development Cell
04	Academic Research and Internationalization	• Office of International Affairs • Ranking Excellence • Accreditation • Faculty Training
05	Indian Knowledge System	• Courses in Indian Languages • IKS as an integral part of the curriculum
06	Institutional Restructuring and Governance	• Flexibility in selection and learning of courses • Environment support for students
07	Coordination	• NEP Dashboard • PMU • Residuals

Chapter 3
Adaptation of Common Curriculum and Credit Framework

3. Adaptation of Common Curriculum and Credit Framework

To maintain uniformity in the credit distribution among all streams (other than those regulated by apex bodies like AICTE, MCI, PCI, BCI, CoA, NCTE) in all Higher Education Institutions (HEIs) i.e., Private/ State Universities and Autonomous colleges in the state of Gujarat, a Common Curriculum and Credit Framework has been defined with fixed credits and the same is accepted by the Education Department, Government of Gujarat i.e. 132 credits for Three Years UG program and 176 Credits for Four Years UG program. (i.e., 10% variation on the higher side of the credits suggested by UGC).
To maintain the uniformity among the courses and prepare the contents of the courses, Government of Gujarat has decided to assign 4 credits for each course. It will help institutions to offer courses in similar weightage of credits and help students to choose the courses from the pool of Major/ Minor/Multidisciplinary courses.

3.1 UGC Suggestive Points to Prepare Credit Structure and Curriculum Framework

In accordance with NEP-2020, the UGC has suggested certain points to keep in consideration to formulate a new student-centric 'Curriculum and Credit Framework for Undergraduate Programmes (CCFUP)' incorporating a flexible choice-based credit system, multidisciplinary approach, and multiple entry and exit options. This will facilitate the student to pursue their career path by choosing the subject/ field of their interest. Some of the suggestive points given by UGC to prepare the credit framework are as follows:

- Flexibility to move from one discipline of study to another.
- Opportunity to choose the courses, based on interest and skills in all disciplines.
- Facilitating multiple entry and exit options with UG certificate/UG diploma/or UG degree depending upon the number of credits secured which shall be decided by the states.
- Inter-university transfer mechanism to enable multi/ inter-disciplinary learning.
- Flexibility and support to switch to an alternative mode of learning (Offline, ODL, online, and hybrid mode of learning)
- Inclusion of topics on Indian Knowledge System in all disciplines of learning.
- More focus on research and provide the courses on Ability Enhancement Course, Value Added Course, and Skill Enhancement Course proportionately for holistic development of the students.
- Proper regulation and implementation of Academic Bank of Credits and Multiple Entry and Exit option.
- Include skill based (Vocational) education in mainstream education.
- Provision for Internship/ Apprenticeship/ OJT/ Field Exposure Visit.
- Proper evaluation mechanism to judge skills not memory.
- Appropriate proportion of duration of students to be allocated for practical, lab-based activities, assignments, group discussions, flipped class arrangements, etc.

3.2 Readiness Requirement at HEIs Level

It is very important to understand the purpose of the credit framework, which has been prepared keeping the suggestions of UGC into consideration. The institution must develop infrastructure and support for the effective implementation of the credit framework.

The following must be available at the institution level to adapt the credit structure decided by the State:

- List of institutions from where students can pursue degree as per their convenience. The student either can select an institution from list or they can go with any other institution.
- Pool of courses under each category as defined in GR to be available to choose. Students either can choose courses from the available pool of courses or can move to any other institutions to study.
- Evaluation mechanism and certification format for those students who exit in first and second year.
- Association with discipline-intensive industries for summer internship.
- Availability of practical lab with updated equipment, Library, ICT-based classroom either in the same campus or in association with other institutions.
- Registration of each student in Academic Bank of Credit.
- Faculties must be skilled in at least one new field (IKS, Language, Vocational Course, Value Added Course, Ability Enhancement Course, Skills Enhancement Course)

3.3 Curriculum Components of the Undergraduate Programme

The curriculum of any programmes (Science/ Arts/ Commerce/ IT/ Vocational/ Professional) consists of Major stream courses, Minor stream courses, Multidisciplinary courses, Ability Enhancement Courses, Skill Enhancement Courses, Value Added Courses. i.e., combination of main academic programmes with language courses, skill courses, a set of courses on environmental education, understanding India, digital and technological solutions, health and wellness, yoga education, and sports and fitness. The course must be designed in such a way that there should not be disparity between streams (Science-Arts-Commerce-STEM), curricular and extra-curricular, vocational, and academic components.

Teaching methods, guided by such a framework, may include lectures supported by tutorial work; practicum and field-based learning; the use of prescribed textbooks and e-learning resources and other self-study materials; project, open-ended project work, some of which may be team-based; activities designed to promote the development of generic/ transferable and subject-specific skills; internship/ OJT and visits to field sites, and industrial or other research facilities, etc.

Your Attention:

1. **HEIs are free to design their own streamwise curriculum and contents of courses as per allocated credits number, required learning hours of contents (Theory, Tutorials, Practical, Experiential Learning), global and industry demand and learning outcome of the course as suggested by the UGC.**
2. **HEIs must also develop and offer the pool of courses (Under each courses category of Major/Minor/Multidisciplinary/AEC/SEC/VAC/IKS/Vocational) to the students which may be of single discipline or multidiscipline (combination of two or more discipline) specific courses.**
3. **All the illustration, tables, charts, letter formats given in this SOP are as standard format for reference, not to consider as final. HEIs may adopt the same or create their own structure adhering to the UGC norms, notification from Education Department and GR released by the State Government of Gujarat.**

3.3.1 Disciplinary/ Interdisciplinary Major (Core) Courses (68/92 Credits)

The students are expected to comply with a particular discipline/ field/ domain. Course/ Subject that is mandatory for a student to study as a core requirement is termed as Major (Core) Course. This course would provide opportunity for a student to pursue in-depth study of a particular subject or discipline. Students may be allowed to change major within the broad discipline at the end of the second semester by giving her/ him sufficient time to explore interdisciplinary courses during the first year. Major courses may be in Botany, Zoology, Chemistry, or a combination of these three courses (i.e., life science).

At the end of the second semester, students can decide either to continue with the chosen major or request a change of major provided he fulfils the eligibility criteria for changing stream.

The Minor courses include vocational courses which will equip the students with job-oriented skills.

Change of Major: Students can opt for a change of major within the broad discipline (Natural and Physical Sciences, Mathematical, Statistics, and Computational Sciences, Library, Information and Media Sciences, Commerce and Management, and Humanities and Social Sciences) at the end of the first year.

A student, who has planned to pursue B.Sc. Physics in first year, if he/ she wants to change to B.A. Hindi after one year of study, institute can allow him to continue to pursue his/her study in B.A. Hindi, provided the fulfilment of entry eligibility criteria, availability of seats, assessment of capacity of students, and by providing the required extra course/ bridge courses (a student may be suggested to attend the ongoing classes/ extra classes which he has missed in 1st year). After three/ four years of study, he/ she will be awarded with UG Degree/ Honours/ Honour with research in Hindi.

If he/ she exits after 1st year of study in B.Sc. Physics, he will be awarded UG Certificate in Physics.

Single Major/Double Major:

Bachelor's Degree Programmes with Single Major: A learner must secure a minimum 50% of total credits (68/92 credits) from the major discipline courses for the 3-years/4-years bachelor's degree to be awarded a single major degree.

For example, in a 3-year UG programme, total number of credits to be earned is 132, a student of Economics with a minimum of 66 credits will be awarded a B.Sc. in Economics with a single major. Similarly, in a 4-year UG programme, total number of credits to be earned is 176, a student of Economics with a minimum of 88 credits will be awarded a B.Sc. (Honours/Honours with Research) in Economics in a 4-year UG programme with single major.

Bachelor's Programmes with Double Major: A learner must additionally secure a minimum 40% of total credits (53/70 credits) from the second major discipline specific courses for the 3-years/4-years bachelor's degree to be awarded a double major degree. In short, student can opt two major (core) subjects as per their own choices.

The main reason for double major study is to have a grip over two subjects which would give the student an edge in the job market. Moreover, in order to study one discipline, a student must have prior knowledge of another discipline.

For example, the knowledge of mathematics is important to the study of economics. In a 3-year UG programme, the total number of credits to be earned is 132, a student of Mathematics with a minimum of 53 credits will be awarded a double major B.Sc. in Economics with Mathematics. Similarly, in a 4-year UG programme, the total number of credits to be earned is 176, a student of Mathematics with a minimum of 70 credits will be awarded a double major B.Sc. (Honours/Honours with Research) in Economics with Mathematics in a 4-year UG programme.

Table 3: Stream-wise Major Courses

Sr. No.	Discipline	Courses (Major)
01	Arts and Humanities	1. Hindi 2. Sanskrit 3. Modern Indian Language- Panjabi 4. English 5. Sociology 6. Public Administration 7. Defence and Strategic Studies 8. History 9. Geography 10. Economics 11. History and Tourism 12. Philosophy 13. Political Science 14. Music 15. Journalism 16. Psychology 17. Mathematics 18. Home Science 19. Education
02	Commerce and Management	1. Business Economics 2. Commerce 3. Banking and Insurance 4. Accounting and Finance 5. Financial Markets 6. Company and Compensation Law 7. Business Administration 8. Labour Management 9. Tourism and Travel Management
03	Science	1. Medical/Life Science 2. Chemistry 3. Physics 4. Botany 5. Zoology 6. Biotechnology 7. Microbiology 8. Biochemistry 9. Computer Science 10. Environmental Science

Sr. No.	Discipline	Courses (Major)
		11. Food Technology 12. Electronic Science 13. Information Technology 14. Forensic Science 15. Biomedical Science 16. Physical Science 17. Operational Research 18. Statistics 19. Anthropology 20. Mathematical Science
04	Others	1. BCA 2. B.Lib 3. B.Ed 4. Multimedia and Communication 5. Fine Arts 6. Performing Arts 7. Physical Education and Health 8. Foreign Languages

3.3.2 Disciplinary/Interdisciplinary Minor (Elective) Course: (24/32 Credits)

It is very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope, or which enables exposure to some other discipline/ subject/ domain or nurtures the candidate's skills. It may be same or other discipline specific.

Students will have the option to choose courses from disciplinary/interdisciplinary minors and skill-based courses relating to a chosen vocational education programme. Students who take enough courses in a discipline or an interdisciplinary area of study other than the chosen major will qualify for a minor in that discipline or in the chosen interdisciplinary area of study. A student may declare the choice of the minor and vocational stream at the end of the second semester, after exploring various courses.

50% of the total credits from minors must be secured in the relevant subject/discipline and another 50% of the total credits from a minor can be earned from any discipline as per students' choice.

The minor courses may be Statistics, Music, Mathematics, Art, or a combination of courses (botany, zoology, chemistry in case of life science).

Minor Selection for B.Sc. Physics Programmes may be (8 subjects for 32 Credits):

Discipline Specific Minor (50%)	Other Discipline Specific Minor (50%)
1. Nuclear and Particle Physics 2. Physics of Semiconductor Devices 3. Atomic and molecular Physics 4. Mathematical Physics	1. Organic chemistry 2. Medicinal chemistry 3. Biodiversity 4. Biochemistry and Cellular basis of life

Vocational Education and Training: Vocational Education and Training will form an integral part of the undergraduate programme to impart skills along with theory and practical. 3 courses (12 credits) under minor category, shall be offered which will be related to the major or minor discipline or choice of the student. These courses must be aligned with National Skills Qualification Framework (NSQF).

Table 4: List of Vocational Courses

Arts	Commerce	Science
• Artwork & Craft Making • Graphic Designing & Animation • Pottery • Tourism & Travel Management • Foreign Languages • Event Management • Film Making • Multimedia • Cinematography • Journalism/Broadcasting • Fashion Designing • Photography	• Business Administration • Office Secretary Training • Marketing & Salesmanship • Accountancy & Auditing • Accounting & Taxation • Small & Medium Enterprises • Retail • Office Assistantship • Financial Market Management • Insurance & Marketing • Stenography & Computer Applications • Banking & Financial Services	• Software Engineering • Computer Applications • Information Technology • System Analysis • Operating Systems • Mechatronics • Renewable Energy • Automobile Servicing • Software Development • Pharmaceutical Manufacturing • Industrial Automation • Building Construction Technology

3.3.3 Multidisciplinary Courses (12 Credits)

All UG students are required to undergo 3 introductory-level courses (4 credits of each course) relating to any of the broad disciplines given below. These courses are intended to broaden the intellectual experience and form part of liberal arts and science education. Students are not allowed to choose or repeat courses already undergone at the higher secondary level (12th class) in the proposed major and minor courses of the same level under this category.

Table 5: List of Multidisciplinary Courses

Category	Courses
1. Natural and Physical Science (Biology, Botany, Zoology, Biotechnology, Biochemistry, Chemistry, Physics, Biophysics, Astronomy and Astrophysics, Earth and Environmental Sciences)	• Agriculture Business Management • India in the World • Nanoscience in drug development • Pharmaceutical products • Extraction techniques • Bioconjugation methods and applications • Nanotechnology: Fundamentals and Applications • Social Responsibility and Community Engagement • Climate Change and Sustainable Development

Category	Courses
	• Biodiversity and Conservation • Ancient Indian Inventions and Modern Science in Vedas • Introduction to Biology
2. Mathematics, Statistics, and Computer Applications	• Cyber Hygiene • Introduction to India's National Security • Artificial Intelligence • Machine Learning • Python Software
3. Library, Information, and Media Sciences	• Digital Information Literacy • Applied Statistics • Mass Communication • Basics of Journalism
4. Commerce and Management	• Philosophy and Management Studies • Sports and Health Care Management • Green Management • Cloud Accounting • Application of Statistics in Economics • Gandhian Economics and Rural Development • Technical Communication Management • Mathematics for Commerce • Econometrics • Forensic Accounting • History of Statistics • Corporate Communication
5. Humanities and Social Sciences	• Hindi Media Lekhan • Basics of Translation • Communicative English • Gujarati Bhasha ka Prathamik Parichay • History of Indian Knowledge Management System • Creative Writing and Literature

3.3.4 Ability Enhancement Course (AEC) (10 Credits)

These courses shall be offered in combination of courses like Modern Indian Language (MIL) & English language focused on language and communication skills. The aim of these courses is to acquire and demonstrate the core linguistic skills, including critical reading and expository and academic writing skills to the students.

The HEIs may introduce courses relevant to the discipline or common to all UG programmes. List of few AEC courses are as below. HEIs can either choose course from the list or define the course by their own way.

Table 6: List of AEC Courses

A. Modern Indian Languages:	B. English Languages and other courses:
1. Assamese 2. Bangla 3. Bodo 4. Dogri 5. Gujarati 6. Hindi 7. Kashmiri 8. Kannada 9. Konkani 10. Maithili 11. Malayalam 12. Manipuri 13. Marathi 14. Nepali 15. Oriya 16. Punjabi 17. Tamil 18. Telugu 19. Santali 20. Sindhi, and 21. Urdu	1. Practical English 2. Functional Grammar and Composition 3. Journalistic Writing 4. English and Communication Skills 5. Business Communication 6. Marketing and Mass communication 7. Translation and interpretation in Guajarati to English 8. Personality Development 9. Environment Conservation & Disaster Management 10. Life Skills 11. Public Speaking

3.3.5 Skills Enhancement Courses (SEC) (10 Credits)

These courses are aimed at imparting practical skills, hands-on training, soft skills, life skills, etc., to enhance the employability of students.

The HEIs may introduce courses relevant to the discipline or common to all UG programmes.

Table 7: List of SEC Courses

• Presentation Skills • Team Building • Stress Management • Personality Development • Time Management • Prompt Engineering	• Web Development and Designing • Catering Management • Radio Jockey • Meditation and Yoga • Tourism Management • Temple Management

• Tally Accounting • Photography and Editing • Office Management • HR Analytics • Organic Farming • Wealth Management • Portfolio Manager • Family Business Management • Mobile Repairing • Public Speaking • Social and Life Skills • Beautician • Holistic wellbeing • Fashion Designing • Creative Writing • Art of Translation • IT Skills & Data Analysis • Basic IT Tools • Advance Spreadsheet Tools • Statistical Software Package • Financial Databased and Analysis Software • Essentials of Python • Digital Marketing • Social Media Marketing • Graphics Designing and Animation • Entrepreneurship Skills	• working with People • Life Skills Education • Finance for Everyone • Personal Financial Planning • Yoga in Practice • Cyber Sphere and Security: Global Concerns • Childcare Management • Sound Engineering • Bakery and Confectionery • Game Designing • Foreign Language • Environmental Auditing • Electronic Product Testing • Innovation and Entrepreneurship • Web design and Development • Introduction to cloud computing • Lab Testing and Quality Assurance • Chemistry Lab Operations and Safety Measures • Environmental impact and risk assessment • Chemistry of Cosmetics and Hygiene Products • Sustainability Reporting • Design Thinking • Leadership Skills

3.3.6 Value Added Course (VAC) (08 Credits)

The course aims at enabling the students to acquire knowledge and understanding and equip them with the ability to apply the acquired knowledge, skills, attitudes, and values to take appropriate actions in professional and day to day life.

These courses may be relevant to Indian Knowledge System, environmental science/ education, digital and technical solutions and health & wellness, yoga education, sports, and fitness.

The HEIs may introduce courses relevant to the discipline or common to all UG programmes.

Table 8: List of VAC Courses

• National Service Scheme (NSS) • National Cadet Corps (NCC) • Ayurveda and Nutrition • Constitutional Values and Fundamental Duties • Sports and Fitness • Emotional Intelligence • Digital Empowerment • Ethics and Culture • Culture and Communication • Ethics and Values in Ancient Indian Traditions • Fit India • Gandhi and Education • Panchkosha: Holistic Development of Personality • Yoga • Environmental Studies • Climate Change • Renewable Energy • Water Harvesting • Human Values and Ethics • Sustainable Development and Living • Drone Technology • Deep Learning • 3D Machining	• Data Analysis • Sports for Life • Swachh Bharat • The Art of Being Happy • Vedic Mathematics • Visual and Performing Arts • Indian Bhakti Tradition Culture and Human Values • Fine Arts • Applied Arts • Literature Culture and Cinema • Critical and Logical Thinking Development • Indian constitution • Effective Waste Management • Conversation of Biological diversity • Management of Biological resources • Forest and Wildlife conversation • Machine Learning • Interpersonal Skills • Cultural Event Management • Emotional Intelligence • Social Skills • Spiritual Well being • Application Design

3.4 Experiential Learning

Experiential learning is an engaging learning process where students "learn by doing" and by reflecting on the experience. These programmes provide opportunities to student to participate actively in on-site experiential learning and involve in activities that would expose students to the socio-economic issues in society so that the theoretical learning can be supplemented by actual life experience to generate solutions to the real-life problems.

Government of Gujarat has suggested to implement 30 days experiential learning programmes on "Student Police Experiential Learning Programme" for undergraduate students.

Objective of this programme is to improve the cognitive and interpersonal skills of the students as well as acquaint them with the major criminal laws, basic procedures of criminal investigation, traffic

management, law and order, and general policing by deploying them as an interns in the local police station through a systematic selection and training process.

Experiential learning can be of two types:

1. Experiential learning as part of the curricular structure of Academic or Vocational Programme

This could be-

A. Within the programme- Internship/Summer Internship undertaken relevant to the programme.
B. As a part time employment – Not relevant to the programme.

HEIs can evolve experiential learning programme within the syllabus like-

- Disaster Management
- Experiment on Innovation, Projects
- Game
- Field Trip & Case Study
- Teaching
- Internship/Apprenticeship/OJT
- Voluntary working with NGOs
- Growing Garden, Seedlings, and Nursery

2. Experiential learning as active employment

This means that the experience attained by a person after undergoing a particular educational program shall be considered for assignment of credits. This could be either Full or Part time employment after undertaking an Academic/Vocational programme.
In case where experiential learning is as a part of employment, the learner would earn credits as weightage. The maximum credit points earned in this case shall be double of the credit points earned with respect to the qualification/course completed. The credit earned and assigned by virtue of relevant experience would enable learners to progress in their career through the work hours put in during a job/employment.

Table 9.1: Credit acquired by virtue of Relevant Experience/Proficiency

Experience cum Proficiency/ Professional Levels	Description of the Relevant Experiential Learning	Weightage/ Multiplication Factor	Defining Criteria
Trained/ Qualified	Completed the coursework/education/ training and has been taught the skills and knowledge needed for a particular job or activity	1	1. No of years of experience 2. Level of knowledge and proficiency or

Experience cum Proficiency/ Professional Levels	Description of the Relevant Experiential Learning	Weightage/ Multiplication Factor	Defining Criteria
Proficient	Proficient implies a thorough competences derived from training and practice	1.33	professional levels attained 3. Any other parameters as maybe defined by the Respective Regulatory/ Trade Bodies
Expert	Expert is defined as performing a job to high standards with good level of education, skill, or training and experience	1.67	
Master	Master means having great/highest level of knowledge and experience in a trade or profession	2	

*For example, a learner who has undertaken training of 1200 hours (40 credits) of level 3 programme, attains 120 credit points (40*3). Presuming that this candidate works in a related field for 3 years, then the overall credit points earned shall be- 120 X 1.33=159.6 or rounded of to 160 credit points. Similarly, in case of student/ learner with more than 7 years' experience, the maximum credit points earned will be 120 X 2= 240*

3.4.1 Internship/Apprenticeship/ On-the-Job Training (OJT)

NEP-2020 emphasizes on Vocationalization of Education. A key aspect of the new UG programme is its utility into a real life situation. All students are expected to do Internships/Apprenticeships/OJT in a firm, industry, or organization. Students will be provided the opportunities for do Internships/Apprenticeships/OJT with local industry, business organizations, health, and allied areas, local governments (such as panchayats, and municipalities), local Police Stations, Parliament or elected representatives, media organizations, artists, crafts persons, and a wide range of organizations so that students may engage with the practical side of their learning, which will improve their employability.

Table 9.2: Provision of Internship/Apprenticeship/OJT

Provision	Duration	No. of Credit required	Purpose
Internship/ Apprenticeship	Summer	4	Students who wish to exit after 1st year or 2nd year of UG programmes
Internship/ Apprenticeship	6th Semester	4	It will be counted under Major course and hence internship can be done in major specific courses only
OJT	7th and 8th Semester	12	To improve the employability

3.4.2 Credit Weightage

The credit weightage for Internship/Apprenticeship/OJT is suggested to be 30 hrs. per credit if they have only practical exposure or lab-based activities. Accordingly, the students must dedicate required number of hours for the same. The guidelines offer scope for providing hands on learning with classroom experience. In case of field visit or experiential learning, 1 credit is equivalent to 40-45 Hours.

Both HEIs & Industries can decide mutually for the duration of classroom lecture and industry visit.

3.4.3 Internship/Apprenticeship/OJT Pathway

Step 1: The University/Institute shall decide subjects to be offered or linked with Internship/Apprenticeship/OJT. The learning outcomes of every subject needs to be defined and mapped.

Step 2: Considering the subject and learning outcomes, institute/college should look for concerned industry who shall provide on-job-training/internship to students.

Step 3: Exchange a letter of Intent/ MOU with the concerned industry/employer (also called Skill Knowledge Partner) mentioning the assignment to be given to the students, nature of work, duration of work per day, total duration, stipend, and honorarium paid to the students, evaluation, and certification process.

Step 4: Assign the industry to the students in lieu with their profile and the requirement of industries

Step 5: Evaluation of the students during and at the end of assignment shall be done jointly with industry supervisor and faculty of the Higher Education Institution (HEI).

Step 6: Issue of certificate/ Letter of Assignment Completion, based on result of the evaluation.

3.4.4 Online Data Management

The Internship/Apprenticeship/OJT is suggested to be tracked by institute Faculty, HOD, Principal, Dean, Director, etc. through a digital platform by developing a new or upgrading existing 'Students' Information System' used by institutions.

The platform is expected to capture the following:

A. Details of Employer
B. Organization Name
C. Employer Supervisor Name and Details
D. Nature of Industry
E. Task Assigned
F. Location
G. Date/s of Internship
H. Total Hours Completed
I. Evaluated by a Faculty Supervisor

The internship dates, number of days, total hours of internship, number of interactions by faculty with students, remarks by faculty, student learnings, and feedback can be captured.

Universities that prefer to track the internships off-line need to make sure that the relevant faculty is responsible for proper monitoring. While doing so, it must collect and store data and information in a way that makes it possible to produce and use it for monitoring and assessment.

3.4.5 Suggestive Safety Measures

1. The Institute/College/University may sign an agreement/MOU with the Employer or organization that shall be providing internship to students. The MOU shall incorporate necessary requirement for internship that includes:
   - Learning exposure to students, assist student to meet learning outcome,
   - Facilities which may be provided by Skill Knowledge Partner (SKP) to assign the work to the students
   - Nature of work
   - Duration of work per day
   - Total duration
   - Stipend and honorarium paid to the students,
   - Evaluation mechanism and
   - Certification
2. In absence of agreement/MOU, letter of Intent (LOI) can be considered as a document to engage the specific organization/employer as Skill Knowledge Provider.
3. OJT/Internship/Apprenticeship should be at the nearest area from institution/college or residence of student. Considering the reputation of industry, safety measures, and convenience, students may opt for Internship/Apprenticeship/OJT at distant location.
4. All safety measures should be complied by industry/ firm or establishment where OJT/ internship/ apprenticeship is carried out.
5. Adequate facility like place to sit, toilets and hygiene facility shall be provided, to ensure gender inclusiveness.
6. Timing and duration of the Internship/Apprenticeship/OJT should be convenient to students, by keeping the travel safety and security into consideration.
7. Preferably Internship/Apprenticeship/OJT must be carried out in offline mode. There should be optional options to work online or remotely, considering the nature of the industry and task which meets the learning outcomes.

3.4.6 Industry/ Employer (Skill Knowledge Provider)

1. Skill Knowledge Provider shall nominate a person who shall be 'Employer Supervisor' or 'Mentor' who will provide exposure to student during assignment of work.
2. The Supervisor should be oriented about the objective of the subject and learning outcome expected from the Internship/Apprenticeship/OJT.
3. Supervisor shall share the feedback of the students and may provide suggestion which can be incorporated for future batches.

3.4.7 Measure to be undertaken by Students

1. Students should register themselves on the portal/platform provided by institution/ college.

2. Students shall record their daily activities and learning in a daily diary, which will also have tasks, activities, and suggestions by the supervisor. The supervisor and the faculty shall assign the time to submit the written documented report.
3. The student shall mention their learning and reflections in the report. Also, it will help students to relate, test and implement classroom learning during assignment of work as well as share his/her experience in class and with peers. The supervisor shall support the student in daily activities and the faculty shall guide them to assimilate the learning in class through an open discussion session.

3.4.8 Grades and Certification Pattern

The grade/marks for Internship/Apprenticeship/OJT shall be provided by the X Supervisor and faculty guide in the ratio of 60% and 40% respectively.

The concerned SKP can issue a certificate or letter for work completion after successful completion of OJT/Internship/Apprenticeship activities by students.

3.5 Research Project/ Dissertation (12 Credits)

There is a need to improve the quality as well as quantity of research that takes place within academic institutions. This can be achieved by providing better funding mechanisms and incentive structures that recognize the quality of output of research and intra-HEI initiatives and inter-HEI and HEI-industry collaboration.

The establishment of National Research Foundation (NRF) is to catalyse quality academic research in all fields and to fund outstanding peer-reviewed research and to actively seed research in universities and colleges.

NRF will provide a merit-based but equitable peer-reviewed research funding, helping to develop a culture of research in the country through suitable incentives and recognition of outstanding research. It will undertake major initiatives to seed and grow research at State Universities and other public institutions where research capability is currently limited. The NRF will fund qualitative research in all disciplines. Successful and relevant research will be recognized, and, implemented through close linkages with governmental agencies as well as with industry and private/philanthropic organizations.

3.5.1 Readiness Requirement at HEI Level

The UGC launched an initiative namely ‘Research and Development Cell’ (RDC) in HEIs with the mandate for promoting quality research that contributes meaningfully towards the goal of a self-reliant India. The establishment of Research and Development Cell (RDC) in HEIs will enable attainment of targets of Atma-Nirbhar Bharat. It is expected to play a pivotal role in catalysing Multidisciplinary/ Interdisciplinary and translational research culture mandated in NEP-2020.

HEIs will play a key role in the advancement of research and innovation as two distinct entities through Research Information Management System (RIMS) for the benefit of faculty, students, industry, and other stakeholders.

Depending upon the availability of infrastructure, HEI may decide to allow only those students to pursue research who fulfil the minimum criteria as follows:

1. Minimum aggregated 75% marks in 1st to 6th Semester
2. Uniqueness and Selection of research topic
3. Any other eligibility criteria to be defined by the universities.

Students choosing a 4-Year Bachelor's Degree (Honours with Research) are required to take up research projects under the guidance of a faculty member. The students are expected to complete the Research Project in the seventh and eighth semester. The research outcomes of their project work may be published in peer-reviewed journals or may be presented in conferences /seminars.

Research in the seventh Semester: Advanced-level disciplinary/interdisciplinary courses related to topic selection and research methodology, and initial stage of research will be conducted like: determining the definition of the information needed, determining the methods of collection of qualitative and quantitative data, conducting secondary data analysis etc.

Research in the eighth semester: The final semester will be devoted to seminar presentation, preparation, and submission of research project report/dissertation. The project work/dissertation will be on a topic in the disciplinary programme of study or an interdisciplinary topic.

3.6 Credit Distribution Framework and Category-wise Number of Courses

Table 10: Three/ four years Honours/ Honours with Research Degree Programme Structure

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	Ability Enhancement Course (AEC)	Skill Enhancement Course (SEC)/Internship	Value Added Course (VAC)/ Indian Knowledge System (IKS)	Research Project (RP)/ On-the-Job Training (OJT)	Total Credit per Sem.	Qualification/Certificate
4.5 1st Year	I	**(8)** Major Course-1 Major Course-2	**(4)** Minor course-1	**(4)** MDC-1	**(2)** AEC-1	**(2)** SEC-1	**(2)** IKS-1	Not Applicable (NA)	22	UG Certificate
	II	**(8)** Major Course-3 Major Course-4	**(4)** Minor course-2	**(4)** MDC-2	**(2)** AEC-2	**(2)** SEC-2	**(2)** VAC-1	NA	22	
1st Year Total Credits		**16**	**8**	**8**	**4**	**4**	**4**	**NA**	**44**	
5.0 2nd Year	III	**(12)** Major Course-5 Major Course-6 Major Course-7	NA	**(4)** MDC-3	**(2)** AEC-3	**(2)** SEC-3	**(2)** IKS-2	NA	22	UG Diploma
	IV	**(12)**	**(4)**	NA	**(2)**	**(2)**	**(2)**	NA	22	

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	Ability Enhancement Course (AEC)	Skill Enhancement Course (SEC)/Internship	Value Added Course (VAC)/ Indian Knowledge System (IKS)	Research Project (RP)/ On-the-Job Training (OJT)	Total Credit per Sem.	Qualification/Certificate
		Major Course-8 Major Course-9 Major Course-10	Minor course-3		AEC-4	SEC-4	VAC-2			
2nd Year Total Credits		**40**	**12**	**12**	**8**	**8**	**8**	**NA**	**88**	
5.5 3rd Year	V	**(12)** Major Course-11 Major Course-12 Major Course-13	**(8)** Minor course-4 Minor course-5	NA	NA	**(2)** SEC-5	NA	NA	22	UG Degree
	VI	**(12)** Major Course-14 Major Course-15 Major Course-16	**(4)** Minor course-6	NA	**(2)** AEC-5	**(4)** (Internship in Major specific course)	NA	NA	22	
3rd Year Total Credits		**64**	**24**	**12**	**10**	**14**	**8**	**NA**	**132**	
6.0 4th Year	VII	**(12)** Major Course-17 Major Course-18 Major Course-19	**(4)** Minor course-7	NA	NA	NA	NA	**(6)** OJT in major specific course	22	UG Honours Degree
	VIII	**(12)** Major Course-20 Major Course-21 Major Course-22	**(4)** Minor course-8	NA	NA	NA	NA	**(6)** OJT in major specific course	22	
4th Year Total Credits		**88**	**32**	**12**	**10**	**14**	**8**	**12**	**176**	
6.0 4th Year	VII	**(12)** Major Course-17 Major Course-18 Major Course-19	**(4)** Minor course-7	NA	NA	NA	NA	**(6)** RP in major specific course	22	UG Honours with Research Degree
	VIII	**(12)**	**(4)**	NA	NA	NA	NA	**(6)**	22	

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	Ability Enhancement Course (AEC)	Skill Enhancement Course (SEC)/Internship	Value Added Course (VAC)/ Indian Knowledge System (IKS)	Research Project (RP)/ On-the-Job Training (OJT)	Total Credit per Sem.	Qualification/Certificate
		Major Course-20 Major Course-21 Major Course-22	Minor course-8					RP in major specific course		
4th Year Total Credits		**88**	**32**	**12**	**10**	**14**	**8**	**12**	**176**	

Note:

Honours students not undergoing research, will do either OJT of 12 credits in major course relevant industry in 7th and 8th semester OR 12 credits (6 credits in 7th Semester and 6 credits in 8th semester) of Major/Minor discipline relevant courses (1 subject of Major/Minor discipline relevant of 4 credits and 1 subject of Major/Minor discipline relevant SEC course of 2 credits in each semester) in lieu of a research project, which will award honours degree to the students. Student can choose these courses from the pool of courses available in same or different institutions.

3.6.1 Calculation of Credits for Three/Four Years UG Programmes

As the internship is considered as part of major course and hence calculation of credits under each category shall be calculated as follow:

Table 11

Year	Major (Core)	Minor (Electives)	Multi/ Interdisciplinary	AEC	SEC	VAC/ IKS	Research Project/ On-the-Job Training	Total Credits
Third	64 + 4 (internship) = 68	24	12	10	10	8	NA	132
Fourth	88 + 4 (internship) = 92	32	12	10	10	8	12	176

3.7 Expected Graduate Attributes (Learning Outcomes)

The National Higher Education Qualifications Framework (NHEQF) envisages that at the end of his/her study, students must possess the quality and characteristics required for the graduate programme of study, including learning outcomes relating to the disciplinary area(s) in the chosen field(s) of learning and generic learning outcomes that are expected to be acquired by a graduate on completion of the programme(s) of study.

Each NHEQF level is structured, and it is based on the defined learning outcomes which lead to the expected graduate attributes/profile. The level descriptors reflect the expected outcomes of learning

that should be achieved and demonstrated by graduates of a specific programme of study leading to a qualification at a specific NHEQF level.

The HEIs must keep these outcomes in consideration when developing the contents of the course. As the level of qualification increases, the students must acquire deeper knowledge and understanding of all the learning areas and their underlying principles.

Table 12

Type of Learning Outcomes	The Learning Outcomes Descriptors
Knowledge and understanding	• Acquire the knowledge of facts, concepts, principles, theories, and processes in broad multidisciplinary learning contexts within the chosen fields of learning
General, technical, and professional skills required to perform and accomplish tasks	• Cognitive and technical skills required for accomplishing assigned tasks related to the chosen fields of learning
Application of knowledge and skills	• Able to apply the acquired operational or technical and theoretical knowledge to generate solutions to specific problems relating to the chosen fields of learning.
Generic learning outcomes	• Listen carefully, able to read texts related to the chosen fields of study analytically, and present information in a clear and concise manner to different groups/audiences. • Able to express thoughts and ideas effectively • Able to gather and interpret relevant quantitative and qualitative data to identify problems • Able to make judgment and take decisions, based on analysis of data and evidence • Acquired critical and analytical thinking, creativity, communication skills, learning and research skills to solve the complex problems
Constitutional, humanistic, ethical, and moral values	• Able to adopt constitutional, humanistic, ethical, and moral values in one's life, and practice these values in real-life situations
Employability and job ready skills, and entrepreneurship skills and capabilities/qualities and mindset	• Acquired knowledge and essential skills required to perform a task effectively in a defined job environment, relevant to chosen fields of study

3.8 Levels of Courses and Course Coding

Courses shall be coded based on the learning outcomes, level of difficulty, and academic stiffness. The coding structure of the course may be as follows:

Table 13

Coding	Level of Courses	Contents Inclusion
0-99	Pre-requisite Courses	An introductory level courses with no credits. It will be required to offer bridge course.
100-199	Foundation or introductory courses	Required to gain an understanding and basic knowledge about the subjects and help decide the subject or discipline of interest. These courses may also be prerequisites for courses in the major subject. These courses generally would focus on foundational theories, concepts, perspectives, principles, methods, and procedures of critical thinking to provide a broad basis for taking up more advanced courses.
200-299	Intermediate-level courses	These courses are subject-specific courses intended to meet the credit requirements for minor or major areas of learning.
300-399	Higher-level courses	These courses are required for majoring in a disciplinary/interdisciplinary area of study to award of a degree.
400-499	Advanced Courses	These courses would include lecture courses with practicum, seminar-based course, term papers, research methodology, advanced laboratory experiments/software training, research projects, hands-on-training, internship/apprenticeship/OJT projects at the undergraduate level or First year Postgraduate theoretical and practical courses.
500-599	Advanced Courses	Courses required at first year master's degree level for a 2-year Master's degree programme
600-699	Advanced Courses	Courses required for second year of 2-year master's or 1-year Master's degree programme
700-799	Advanced Courses	Courses limited to Doctoral Level

3.8.1 Course Contents and Pedagogy-based Learning

It is suggestive to develop and prepare the course content independently by HEIs in all courses by keeping outcomes of the learning into consideration. The content of the course can be developed based on the requirement of theory, tutorials, practical and field visit session etc.

Let's take an example of 1st semester of B.Sc. in Physics. As per defined credit structure, the student can choose 2 major subjects of Physics (4 credit of Mechanics and 4 credits of Electricity and Magnetism). The course contents can be developed as below:

Programme	Subject	Theory session (1 Hr.)	Practical session (1 Hr.)	Tutorial session (1 Hr.)	Experiential learning (1 Hr.)	Total Credits
B.Sc. in Physics	Mechanics	30 Lectures (2 Credits)	30 Sessions (1 Credit)	Nil	45 Sessions (1 Credit)	4 Credits
	Electricity and Magnetism	45 Lectures (3 Credits)	30 Sessions (1 Credit)	Nil	Nil	4 Credits
Total						**8 Credits**

The learning session of the contents can be in combination of Pedagogy, Andragogy and Heutagogy.

Pedagogy based lesson delivery means the learner is a dependent personality. Teacher determines what, how, and when anything is learned. Learning is subject-centric, focused on the prescribed curriculum and planned sequences according to the logic of the subject matter.

Andragogy based lesson delivery means Adults are independent. They strive for autonomy and self-direction in learning.

Heutagogy based lesson delivery means learners are interdependent. They identify the potential to learn from novel experiences as a matter of course. They can manage their own learning.

3.8.2 Calculation of Learning Hours

Course curriculum can be prepared by confirmation of lectures required for learning outcomes, course contents, IKS linked contents, and other required skills. As per requirement of learning hours for theory, practical/ lab session, experiential learning of a particular subject, credits can be allocated accordingly.

Let's take an example of Biodiversity (Microbes, Algae, Fungi and Archegoniate), subject under Botany:

Option A

	Theory	Practical	Experiential	Total
Learning Hours	30	30	45	105
Credit	2	1	1	4

Option B

	Theory	Practical	Experiential	Total
Learning Hours	45	15	22	82
Credit	3	0.5	0.5	4

Option C

	Theory	Practical	Experiential	Total
Learning Hours	45	30	0	75
Credit	3	1	0	4

3.9 Pool of Courses/ Subjects

All the HEIs must prepare pools of course under each category/stream to be offered to the students. Students will have flexibility to choose courses from the pool of courses based on their choice, interest, and skills.

The Choice Based Credit System (CBCS) provides an opportunity for the students to choose the courses from the prescribed courses comprising Major, Minor, Multidisciplinary, IKS, Value added, Ability enhancement, and skill enhancement courses. The course shall be evaluated following the uniform grading system in entire higher education institutions, which will benefit the students to move across institutions within or outside the states and enable potential employer in assessing the performance of the candidates.

Here is an illustrative of semester wise course structure for B.Sc. life science/Medical:

Illustration 1: Structure of B.Sc. in (Life Science/Medical) under CBCS:

Table 14: Major (Core) Course (22)

Botany: (Choose any 8 subjects- each 4 credits)	**Zoology:** (Choose any 8 subjects- each 4 credits)	**Chemistry:** (Choose any 6 subjects- each 4 credits)
1. Biodiversity (Microbes, Algae, Fungi and archegoniate) 2. Cell and molecular biology 3. Plant anatomy and embryology 4. Plant physiology and metabolism 5. Biology and diversity of seed plant 6. Bioethics 7. Environmental Studies 8. Plant evolution 9. Plant ecology and photography 10. Genetics and Cytogenetics	1. Animal Diversity-I 2. Animal diversity-II 3. Genetics and evolution 4. Physiology and biochemistry 5. Ecology 6. Microbiology 7. Biochemistry and cellular basis of life 8. Wildlife forensics 9. Microbiology diversities 10. Biosphere	1. Bonding 2. Concept of organic chemistry 3. Thermodynamics, chemical equilibrium, and electrochemistry 4. Spectroscopy 5. Analytical Chemistry 6. Advance inorganic chemistry 7. Water chemistry and treatment technology 8. Medicinal chemistry

Table 15: Minor Courses (8)

Botany (Choose any 3 subjects- each 4 credits)	**Zoology** (Choose any 3 subjects- each 4 credits)	**Chemistry** (Choose any 2 subjects- each 4 credits)
1. Economic botany and biotechnology 2. Plant ecology and taxonomy 3. Analytical techniques in plant science	1. Animal Behaviour 2. Reproductive biology 3. Developmental biology 4. Biotechnology 5. Immunology	1. Molecules of Life 2. Bioinorganic, environmental, and green chemistry 3. Analytical method in chemistry

4. Bioinformatics **5.** Mycology and Phytopathology		4. Applied chemistry

Multidisciplinary Course

Choose any 3 subjects- each 4 credits

1. Environmental science
2. Nursery and Gardening
3. IKS
4. Herbal technology
5. Mushroom culture technology

Ability Enhancement Course (AEC)

Choose any 5 subjects- each 2 credits

1. English/Modern Indian Language (MIL) communication
2. Translation and interpretation in Hindi
3. Understanding and Interrogating Ethics
4. Communication and Soft skills
5. Personality Development
6. Environment Conservation & Disaster Management
7. Life Skills
8. Public Speaking

Skills Enhancement Course (SEC)

Choose any 5 subjects- each 2 credits

1. Photography
2. Cyber Security
3. Business Start-up Laws
4. Pottery
5. Artificial Intelligence
6. Cyber Security and Forensic
7. Digital Computer Fundamentals
8. Creative Writing
9. Social Media Marketing

Value Added Course (VAC)

Choose any 4 subjects- each 2 credits

1. Ayurveda and Nutrition
2. Constitutional Values and Fundamental Duties
3. Indian Culture and Public Communication
4. Digital Empowerment
5. IKS-I (Mandatory)
6. IKS-2 (Mandatory)

OJT/Internship/Apprenticeship and Job Opportunities

OJT/ Internship/ Apprenticeship shall be done in similar industries. Some of the popular industries where the OJT/ Internship/ Apprenticeship in life science can be done in:

1. Biocon
2. Agrotech food
3. ANG Life science
4. Britannia India Ltd.
5. Sun Pharma
6. Cadbury India Ltd.
7. Nestle India Pvt. Ltd.

Table 16: Job opportunity under Life Science career

Job Profile	Job Description
Biochemist	They observe and study biochemical processes under different conditions to help improve the products in agriculture and food processing.
Pathologist	Examines bodies to find reasons for diseases and injury to find proper patient care.
Museum Educator	They are responsible for maintaining and acquiring new exhibition articles for a museum while also ensuring that they pass on rightful information about the exhibits to the visitors.
Nutritionist	They analyse and study patient's bodies and blood samples to ensure healthy nutrition. The role of a nutritionist is of utmost importance during the growth phase of a child.
Food Scientist	They test food samples for analysing its yeast and microscopic organism, tally and carry out experiments to decrease segments that might be unsafe. They also assess the nutritional value of the food.
Immunologist	Immunologists research different living creatures to find ways for improving their immune systems.
Scientific/Journal Writer	They create and edit the content that's of scientific nature, for explaining theories and processes.
Food Scientist	Food scientist works in the food processing industry, for improving product quality by assessing and improving current manufacturing techniques.

Semester wise combination of courses in **Bachelor of Science Honours/Honours with Research in Life Science** can be as below (based on student's selection of courses from above pool of courses which is highlighted in **Blue Colour)**:

Table 17: Semester I: (Credits: 22)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B331	Major	Biodiversity (Microbes, Algae, Fungi and archegoniate)	3	0	1	4
BSC Z432	Major	Animal Diversity-I	3	0	1	4
BSC C304	Minor	Molecules of Life	3	0	1	4
BSC E303	MDC	Environmental science	3	0	1	4
AEC A209	AEC	English/MIL communication	2	0	0	2
SEC S208	SEC	Photography	2	0	0	2
VAC I202	VAC	IKS-I	2	0	0	2

(Credits accumulated after 1st semester- 22). Students will not be eligible for any kinds of award.

Table 18: Semester II: (Credits: 22)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B332	Major	Cell and molecular biology	3	0	1	4
BSC Z433	Major	Microbiology	3	0	1	4
BSC Z305	Minor	Animal Behaviour-I	3	0	1	4
BSC E304	MDC	Nursery and Gardening	3	0	1	4
AEC A210	AEC	Translation and interpretation in Hindi	1	0	1	2
SEC S209	SEC	Cyber Security	1	0	1	2
VAC I203	VAC	Ayurveda and Nutrition	1	0	1	2

(Credits accumulated after 1st Year- 44)

Case 1: If student want to discontinue/exit due to some reason (Skills Based Training/work experience) after 1 year of study, he/she must do summer internship of 4 credits (i.e., 120 hrs. engagement in industry) in above mentioned industries in a topic relevant to Botany/Zoology/Chemistry subject, before commencement of 2nd year's batch. After evaluation and successful completion of summer internship (4 credits), student shall be awarded with '**UG Certificate in Life Science'**, with redemption of 48 credits from ABC.

OR students can continue for 3rd Semester/2nd year of study.

Table 19: Semester III: (Credits: 22)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B333	Major	Plant anatomy and embryology	3	0	1	4
BSC Z434	Major	Animal diversity-II	3	0	1	4
BSC C306	Major	Concept of organic chemistry	3	0	1	4

BSC E305	MDC	IKS-4	3	0	1	4
AEC A211	AEC	Understanding and Interrogating Ethics	1	0	1	2
SEC S210	SEC	Business Start-up	1	0	1	2
VAC I204	VAC	Constitutional Values and Fundamental Duties	1	0	1	2

(Credits accumulated after 3rd semester- 66)

Table 20: Semester IV: (Credits: 22)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B334	Major	Plant physiology and metabolism	3	0	1	4
BSC Z435	Major	Genetics and evolution	3	0	1	4
BSC C307	Major	Thermodynamics, chemical equilibrium, and electrochemistry	3	0	1	4
BSC E306	Minor	Economic botany and biotechnology	2	1	1	4
AEC A212	AEC	Communication and Soft skills	1	0	1	2
SEC S212	SEC	Pottery	1	0	1	2
VAC I205	VAC	IKS-2	1	0	1	2

(Credits accumulated after 2nd Year- 88)

Case II: If student want to discontinue/exit due to some reason (Skills Based Training/work experience), he/she must do summer internship of 4 credits (i.e., 120 hrs. engagement in industry) in above mentioned industries in a topic relevant to Botany/Zoology/Chemistry subject, before commencement of 3rd year's batch. After evaluation and successful completion of summer internship (4 credits), student shall be awarded with '**UG Diploma in Life Science'**, with redemption of 92 credits from ABC.

OR students can continue for 5th Semester/3rd year of study.

Table 21: Semester V: (Credits: 22)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B335	Major	Biology and diversity of seed plant	3	0	1	4
BSC Z436	Major	Physiology and biochemistry	3	0	1	4

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC C308	Major	Spectroscopy	3	0	1	4
BSC B307	Minor	Economic botany and biotechnology	2	1	1	4
BSC Z313	Minor	Reproductive biology	4	0	0	4
SEC S213	SEC	Artificial Intelligence	1	0	1	2

(Credits accumulated after 5th semester- 110)

Table 22: Semester VI: (Credits: 22)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B336	Major	Bioethics	3	0	1	4
BSC Z437	Major	Ecology	3	0	1	4
BSC C309	Major	Analytical Chemistry	3	0	1	4
BSC B308	Minor	Analytical techniques in plant science	2	1	1	4
AEC A214	AEC	Contributor Personality Development	1	0	1	2
HSS/Q2301	Internship	Emergency Medical Technician-Basic	1	0	3	4

(Credits accumulated after 3rd Year- 132)

After successful completion of 6th Semester/3rd year of study, students shall be awarded with '**B.Sc. in Life Science'** with redemption of 132 credits from ABC. After UG degree, students can opt either for placement OR study in Honours/Honours with research OR 2 years of PG programmes depending upon the eligibility criteria defined by the concerned institutions.

Table 23: Semester VII: (Honours -22 Credits)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B337	Major	Environmental Studies	3	0	1	4
BSC Z438	Major	Biochemistry and cellular basis of life	3	0	1	4
BSC C310	Major	Bonding	3	0	1	4
BSC B309	Minor	Developmental biology	2	0	2	4
	OJT	Trainee-Immunologist	1	0	5	6

(Credits accumulated after 7th semester- 154)

Table 24: Semester VIII: (Honours -22 Credits)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B338	Major	Plant evolution	3	0	1	4

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC Z439	Major	Wildlife forensics	3	0	1	4
BSC C311	Major	Advance inorganic chemistry	3	0	1	4
BSC B310	Minor	Bioinorganic, environmental, and green chemistry	2	0	2	4
	OJT	Trainee-Immunologist	1	0	5	6

(Credits accumulated after 4th Year- 176)

After successful completion of 8th Semester/4th year of study, students shall be awarded with '**B.Sc. Honours in Life Science'.** If a student opting for Honours without research, must either do on-the-job training in major specific discipline or choose combination of course (as explained in 'Note' under Table 10). After Honours degree, students can opt either for placement OR study in 1 years of PG programmes depending upon the eligibility criteria defined by the concerned institutions.

Table 25: Semester VII: (Honours with Research-22 Credits)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B337	Major	Environmental Studies	3	0	1	4
BSC Z438	Major	Biochemistry and cellular basis of life	3	0	1	4
BSC C310	Major	Bonding	3	0	1	4
BSC B309	Minor	Developmental biology	2	0	2	4
	Research Project	Development of immune system in microbes	4	0	2	6

Table 26: Semester VIII: (Honours with Research-22 Credits)

Course Code	Category	Title of the Course	Theory	Tutorial	Practical	Total Credits
BSC B338	Major	Plant evolution	3	0	1	4
BSC Z439	Major	Wildlife forensics	3	0	1	4
BSC C311	Major	Advance inorganic chemistry	3	0	1	4
BSC B310	Minor	Bioinorganic, environmental, and green chemistry	2	0	2	4
	Research Project	Development of immune system in microbes	5	0	1	6

After successful completion of 8th Semester/4th year of study, students shall be awarded with '**B.Sc. Honours with Research in Life Science'.** If a student opting for Honours without research, must do research in major specific discipline. After Honours with Research degree, students can opt either for placement OR study in 1 years of PG programmes depending upon the eligibility criteria defined by the concerned institutions.

Illustration 2:

HEIs must prepare a pool of courses under each category as per UGC norms. The students shall have flexibility to choose the courses based on their interest and skills from this pool of courses by keeping eligibility criteria and admission regulation into consideration. HEIs can also provide the bridge course when students are from different skills set.

Table 27: Pool of courses in B.Sc. IT

Major (Core) Course	Minor (Electives) Course	Multi/ Interdisciplinary Course	Ability Enhancement Course	Skills Enhancement Course	Value Added Course/India Knowledge System
❖ Logic Development ❖ Web Technologies ❖ Database Management System ❖ Data Structures ❖ Relational Database Management System ❖ Operating system ❖ Python Programming ❖ Cloud Computing ❖ Information Security ❖ Software Testing ❖ Open-Source Technology ❖ Big Data Analytics ❖ Web Development using Python Framework ❖ Machine Learning ❖ Internet of Things (IoT) and its applications ❖ Fundamental of programming ❖ Probability and statistics ❖ Computer organisation and structure ❖ Computer network ❖ Introduction to blockchain ❖ Large scale graph analysis ❖ Game theory	❖ Computer Fundamental ❖ C language for programming ❖ Gaming ❖ Mobile Application Development ❖ Data Science ❖ Web Development ❖ Networking and security ❖ Database management system ❖ Java full stack development ❖ Social network analysis ❖ Algorithm	❖ Foundation in Computational Mathematics ❖ Foundation in Statistical Methods ❖ Computer Organization ❖ Computer Networks ❖ Software Project Management ❖ Agile software Development ❖ Cyber Security ❖ Artificial Intelligence ❖ Switching circuit and logic design ❖ Digital electronic circuit ❖ Computer architecture and operating system	❖ English & Communication Skills – I ❖ Modern Indian Language ❖ English & Communication Skills – II ❖ Social Media and Blog Writing ❖ Environmental Science: Theory into Practice – I	❖ Office Automation ❖ Soft Skills/Life Skills ❖ Advanced Spreadsheet ❖ Enterprise Resource Planning ❖ Creative Writing ❖ Social Media Marketing ❖ Art of Translation ❖ Basic Analytical Techniques	❖ Yoga & Wellness ❖ Environmental Studies ❖ Logical and Critical Thinking ❖ Indian Knowledge System ❖ NSS/NCC ❖ Ayurveda and Nutrition ❖ Culture and Communication ❖ Ethics And Culture ❖ The Art of Being Happy

Suppose a student wants to join the rewarding field of computer science, but lack the necessary background to get into, then **Bridge course** is a fast and convenient way to advance their education. These Bridge course will short term course design for students who lacking a background in IT field. This training fills the gap of skills for non-IT background students and to know institution's rules and regulations.

Some topics as bridge course for non-IT students to join computer science field:

- Generation of computer
- Block diagram of computers
- Functional unit of computers
- Computer languages
- Typing master
- Introduction to internet
- Computer network
- Operating system

Illustration 3:

Table 28: Course Structure for Science (B.Sc. Honours/Honours with Research in Physics)

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	AEC	SEC/ Internship	VAC/ IKS	RP/ OJT	Total Credit/ Sem.
4.5 1st Year	I	(8) 1. Mechanics 2. Electricity, Magnetism and EMT	(4) 1. Organic chemistry	(4) 1. Peace & Conflict Resolution	(2) 1. Modern Indian Language	(2) 1. Life Skills Education	(2) 1. IKS-1	Not Applicable (NA)	22
	II	(8) 3. Thermal Physics and Statistical Mechanics 4. Waves and Optics	(4) 2. Medicinal chemistry	(4) 2. Indian Knowledge System	(2) 1.Practical English	(2) 2. Personal Financial Planning	(2) 2. Emotional Intelligence	NA	22
1st Year Total Credits		**16**	**8**	**8**	**4**	**4**	**4**	**NA**	**44**
5.0 2nd Year	III	(12) 5. Quantum mechanics 6. Nuclear physics 7. Electro magnetism	NA	(4) 3. Environmental Journalism	(2) 3.Functional Grammar and composition	(2) 3. Office Management	(2) 3. IKS-2	NA	22
	IV	(12) 8. Thermo dynamics 9. Condensed matter physics 10. Optics	(4) 3. Physiology	NA	(2) 4. Journalistic Writing	(2) 4. Public Speaking	(2) 4. Digital Empowerment	NA	22

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	AEC	SEC/ Internship	VAC/ IKS	RP/ OJT	Total Credit/ Sem.
2nd Year Total Credits		**40**	**12**	**12**	**8**	**8**	**8**	**NA**	**88**
5.5 3rd Year	V	(12) 11. Particle physics 12. Astro physics 13. Classical mechanics	(8) 4. Nuclear and Particle Physics 5.Mathematical Physics	NA	NA	(2) 5. Social and Life Skills	NA	NA	22
	VI	(12) 14. Statistical mechanics 15. Modern physics 16. Solid-state physics	(4) 6. Theory of Relativity	NA	(2) 5. Business Communication	(4) (Internship in Thermodynamics)	NA	NA	22
3rd Year Total Credits		**64**	**24**	**12**	**10**	**14**	**8**	**NA**	**132**
6.0 4th Year	VII	(12) 17. General relativity 18. Biophysics 19. Computational physics	(4) 7. Atomic and molecular Physics	NA	NA	NA	NA	(6) OJT in Electricity	22
	VIII	(12) 20. Classical physics 21. Thermal physics 22. Quantum field theory	(4) 8. Physics of Semiconductor Devices	NA	NA	NA	NA	(6) OJT in Semiconductor	22
4th Year Total Credits		88	32	12	10	14	8	12	**176**
6.0 4th Year	VII	(12) 17. General relativity 18. Biophysics 19. Computational physics	(4) 7. Atomic and molecular Physics	NA	NA	NA	NA	(6) RP in Theory of relativity	22
	VIII	(12) 20. Classical physics 21. Thermal physics 22. Quantum field theory	(4) 8. Physics of Semiconductor Devices	NA	NA	NA	NA	(6) RP in Theory of relativity	22
4th Year Total Credits		**88**	**32**	**12**	**10**	**14**	**8**	**12**	**176**

Curriculum Design for a Subject Paper

Subject: Mechanics	Credits-4: Theory -03, Practical-01
Theory: 45 Lectures of 1 Hr.	Practical: 30 Sessions of 1 Hr. OR 15 Sessions of 2 Hrs.

- **Unit 1: Vectors:** Vector algebra. Scalar and vector products. Derivatives of a vector with respect to a parameters. **(3 Lectures)**

- **Unit 2: Ordinary Differential Equations:** first order homogeneous differential equations. Second order homogeneous differential equations with constant coefficients. **(5 Lectures)**

- **Unit 3: Laws of Motion:** Frames of reference. Newton's Laws of motion. Dynamics of a system of particles. Centre of Mass. **(5 Lectures)**

- **Unit 4: Momentum and Energy:** Conservation of momentum. Work and energy. Conservation of energy. Motion of rockets. **(5 Lectures)**

- **Unit 5: Rotational Motion:** Angular velocity and angular momentum. Torque. Conservation of angular momentum. **(5 Lectures)**

- **Unit 6: Gravitation:** Newton's Law of Gravitation. Motion of a particle in a central force field (motion is in a plane, angular momentum is conserved, areal velocity is constant). Kepler's Laws (statement only). Satellite in circular orbit and applications. Geosynchronous orbits. Weightlessness. Basic idea of global positioning system (GPS). **(5 Lectures)**

- **Unit 7: Oscillations:** Simple harmonic motion. Differential equation of SHM and its solutions. Kinetic and Potential Energy, Total Energy, and their time averages. Damped oscillations. **(5 Lectures)**

- **Unit 8: Elasticity:** Hooke's law - Stress-strain diagram - Elastic moduli-Relation between elastic constants - Poisson's Ratio-Expression for Poisson's ratio in terms of elastic constants - Work done in stretching and work done in twisting a wire - Twisting couple on a cylinder - Determination of Rigidity modulus by static torsion - Torsional Pendulum-Determination of Rigidity modulus and moment of inertia - q, η and σby Searles method **(7 Lectures)**

- **Unit 9: Special Theory of Relativity:** Constancy of speed of light. Postulates of Special Theory of Relativity. Length contraction. Time dilation. Relativistic addition of velocities. **(5 Lectures)**

Arrangement of lectures duration and practical session as per defined credit numbers:

Units	Lecture Duration (In Hrs.)		Calculation of Credits (In Numbers)		Total Lecture Duration	Credit Calculation
	Theory	Practical	Theory	Practical	Theory + Practical	Theory + Practical
Unit 1	3	2			5	
Unit 2	5	3			8	
Unit 3	5	2			7	
Unit 4	5	3			8	
Unit 5	5	4			9	
Unit 6	5	5			10	
Unit 7	5	4			9	
Unit 8	7	5			12	
Unit 9	5	2			7	
Total	**45**	**30**	**3**	**1**	**75**	**4**

Evaluation:

Theory marks	Practical Marks	Total Marks
75	25	100

Illustration 4:

Table 29: Course Structure for Arts (B.A. Honours/Honours with Research in History)

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	AEC	SEC/ Internship	VAC/ IKS	RP/ OJT	Total Credit/ Sem.
4.5 1st Year	I	**(8)** 1. History of India-I 2. Social Formations and Cultural Patterns of the Ancient World	**(4)** 1. Environmental Issues in India	**(4)** 1. Mass Communication	**(2)** 1. Modern Indian Language	**(2)** 1. Life Skills Education	**(2)** 1. IKS-1	Not Applicable (NA)	22
	II	(8) 3. History of India-II 4. Social Formations and Cultural Patterns of the Medieval World	**(4)** 2. Making of Contemporary India	**(4)** 2. Indian Knowledge System	**(2)** 1.Practical English	**(2)** 2. Personal Financial Planning	**(2)** 2. The Art of being Happy	NA	22
1st Year Total Credits		**16**	**8**	**8**	**4**	**4**	**4**	**NA**	**44**
5.0	III	**(12)**	NA	**(4)**	**(2)**	**(2)**	**(2)** 3. IKS-2	NA	22

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	AEC	SEC/ Internship	VAC/ IKS	RP/ OJT	Total Credit/ Sem.
2nd Year		5. History of India-III 6. Rise of the Modern Western World-I 7. History of India IV		3. India in the World	3.Functional Grammar and composition	3. Fashion Designing			
	IV	**(12)** 8. Rise of the Modern Western World-I 9. History of India-V 10. History of India-VI	**(4)** 3. Delhi: Ancient	NA	**(2)** 4. Journalistic Writing	**(2)** 4. Public Speaking	**(2)** 4. Sports and Fitness	NA	22
2nd Year Total Credits		**40**	**12**	**12**	**8**	**8**	**8**	**NA**	**88**
5.5 3rd Year	V	**(12)** 11. History of Modern Europe- I 12. History of India-VII 13. History of India	**(8)** 4. Issues in Contemporary World 5. History of Southeast Asia-The 19TH Century	NA	NA	**(2)** 5. Social and Life Skills	NA	NA	22
	VI	**(12)** 14. History of Modern Europe- II 15. History of United States of America -1 16. History of United States of America -I1	**(4)** 6. History of Southeast Asia-The 20TH Century	NA	**(2)** 5. Business Communication	**(4)** (Internship in Archaeology)	NA	NA	22
3rd Year Total Credits		**64**	**24**	**12**	**10**	**14**	**8**	**NA**	**132**
6.0 4th Year	VII	**(12)** 17. History of the USSR-I 18. History of the USSR-II 19. History of Africa	**(4)** 7. History of Modern East Asia-I	NA	NA	NA	NA	**(6)** OJT in Research Assistant	22
	VIII	**(12)** 20. History of Latin America	**(4)**	NA	NA	NA	NA	**(6)**	22

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	AEC	SEC/ Internship	VAC/ IKS	RP/ OJT	Total Credit/ Sem.
		21.Transformation of Europe 22. European History	8. History of Modern East Asia-1					OJT in Research Assistant	
4th Year Total Credits		**88**	**32**	**12**	**10**	**14**	**8**	**12**	**176**
6.0 4th Year	VII	**(12)** 17. History of the USSR-I 18. History of the USSR-II 19. History of Africa	**(4)** 7. History of Modern East Asia-I	NA	NA	NA	NA	**(6)** RP in Living of Ancient American	22
	VIII	**(12)** 20. History of Latin America 21.Transformation of Europe 22. European History	**(4)** 8. History of Modern East Asia-1	NA	NA	NA	NA	**(6)** RP in Living of Ancient American	22
4th Year Total Credits		**88**	**32**	**12**	**10**	**14**	**8**	**12**	**176**

Curriculum Design for a Subject Paper

Subject: History of India I	Credits-4: Theory -04, Practical-00
Theory: 60 Lectures of 1 Hr.	Practical: NA

- **Unit 1: Reconstructing Ancient Indian History** **(12 Lectures)**
  [a] Early Indian notions of History
  [b] Sources and tools of historical reconstruction.
  [c] Historical interpretations (with special reference to gender, environment, technology, and regions).
- **Unit 2: Pre-historic hunter-gatherers** **(12 Lectures)**
  [a] Paleolithic cultures- sequence and distribution; stone industries and other technological developments.
  [b] Mesolithic cultures- regional and chronological distribution; new developments in technology and economy; rock art.
- **Unit 3: The advent of food production** **(12 Credits)**
  Understanding the regional and chronological distribution of the Neolithic and Chalcolithic cultures: subsistence, and patterns of exchange
- **Unit 4: The Harappan civilization** **(12 Credits)**
  Origins; settlement patterns and town planning; agrarian base; craft productions and trade; social and political organization; religious beliefs and practices; art; the problem of urban decline and the late/post-Harappan traditions.
- **Unit 5: Cultures in transition** **(12 Credits)**

Settlement patterns, technological and economic developments; social stratification; political relations; religion and philosophy; the Aryan Problem.

[a] North India (circa 1500 BCE-300 BCE)

[b] Central India and the Deccan (circa 1000 BCE - circa 300 BCE)

[c] Tamilakam (circa 300 BCE to circa CE 300)

Evaluation:

Theory marks	Practical Marks	Total Marks
100	00	100

Illustration 5:

Table 30: Curriculum Structure for Commerce (B. Com. Honours/Honours with Research)

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	AEC	SEC/ Internship	VAC/ IKS	RP/ OJT	Total Credit/ Sem.
4.5 1st Year	I	**(8)** 1. Financial Accounting 2. Business Organisation and Management	**(4)** 1. Personal Tax Planning and Tax Management	**(4)** 1. Indian Ethos and Management	**(2)** 1. Modern Indian Language	**(2)** 1. Personal Selling and Salesmanship	**(2)** 1. IKS-1	Not Applicable (NA)	22
	II	(8) 3. Business Law 4. Business Mathematics and Statistics	**(4)** 2. Consumer Protection	**(4)** 2. Bhartiya Gyan Parampara	**(2)** 1.Practical English	**(2)** 2. Personal Financial Planning	**(2)** 2. The Art of being Happy	NA	22
1st Year Total Credits		**16**	**8**	**8**	**4**	**4**	**4**	**NA**	**44**
5.0 2nd Year	III	**(12)** 5. Company Law 6. Income Tax Law and Practice 7. Corporate Accounting	NA	**(4)** 3. Ethics and Governance	**(2)** 3.Functional Grammar and composition	**(2)** 3. Entrepreneurship	**(2)** 3. IKS-2	NA	22
	IV	**(12)** 8. Cost Accounting 9. Auditing 10. Management Accounting	**(4)** 3. Financial Derivatives	NA	**(2)** 4. Journalistic Writing	**(2)** 4. Public Speaking	**(2)** 4. Yoga, Sports and Fitness	NA	22
2nd Year Total Credits		**40**	**12**	**12**	**8**	**8**	**8**	**NA**	**88**
5.5	V	**(12)**	**(8)**	NA	NA	**(2)**	NA	NA	22

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	AEC	SEC/ Internship	VAC/ IKS	RP/ OJT	Total Credit/ Sem.
3rd Year		11. Human Resource Management 12.International Business 13. Financial Management	4. Business Valuation 5. Industrial Relations and Labour Laws			5. Social and Life Skills			
	VI	**(12)** 14. Principles of Marketing 15. Business Analytics 16. Corporate Governance	**(4)** 6. Investment Banking and Financial Services	NA	**(2)** 5. Business Communication	**(4)** (Internship on E-commerce)	NA	NA	22
3rd Year Total Credits		**64**	**24**	**12**	**10**	**14**	**8**	**NA**	**132**
6.0 4th Year	VII	**(12)** 17. Goods and Services Tax (GST) 18. Customs Law 19. Business and Macroeconomic Policy	**(4)** 7. Behavioural Finance	NA	NA	NA	NA	**(6)** OJT in Accountancy	22
	VIII	**(12)** 20. Financial Reporting Analysis & Valuation 21.Accounting for Mergers &Acquisitions and Valuations 22. The Economy of Bharat	**(4)** 8. Social and Environmental Accounting	NA	NA	NA	NA	**(6)** OJT in Accountancy	22
4th Year Total Credits		**88**	**32**	**12**	**10**	**14**	**8**	**12**	**176**
6.0 4th Year	VII	**(12)** 17. Goods and Services Tax (GST) 18. Customs Law 19. Business and Macroeconomic Policy	**(4)** 7. Behavioural Finance	NA	NA	NA	NA	**(6)** RP in Financial Obligation in Indian economy	22

NcrF Credit Level	Semester	Major (Core) Course	Minor (Elective) Course	Multi/Interdisciplinary Course (MDC)	AEC	SEC/ Internship	VAC/ IKS	RP/ OJT	Total Credit/ Sem.
	VIII	**(12)** 20. Financial Reporting Analysis & Valuation 21.Accounting for Mergers &Acquisitions and Valuations 22. The Economy of Bharat	**(4)** 8. Social and Environmental Accounting	NA	NA	NA	NA	**(6)** RP in Financial Obligation in Indian economy	22
4th Year Total Credits		**88**	**32**	**12**	**10**	**14**	**8**	**12**	**176**

Curriculum Design for a Subject Paper

Subject: Financial Accounting	Credits-4: Theory -03, Practical-01
Theory: 45 Lectures of 1 Hr.	Practical: 30 Sessions of 1 Hr. OR 15 Sessions of 2 Hrs.

- **Unit 1: (a) Computerized Accounting System (9 Lectures)**

  i. Accounting as an information system, the users of financial accounting information and their needs. Qualitative characteristics of accounting, information. Functions, advantages and limitations of accounting. Branches of accounting. Bases of accounting; cash basis and accrual basis.

  ii. The nature of financial accounting principles – Basic concepts and conventions: entity, money measurement, going concern, cost, realization, accruals, periodicity, consistency, prudence (conservatism), materiality and full disclosures.

  iii. Financial accounting standards: Concept, benefits, procedure for issuing accounting standards in India. Salient features of First-Time Adoption of Indian Accounting Standard (Ind-AS) 101. International Financial Reporting Standards (IFRS): - Need and procedures.

  (b) Accounting Process (3 Lectures)

  From recording of a business transaction to preparation of trial balance including adjustments

- **Unit 2: (a) Business Income (7 Lectures)**

  i. Measurement of business income-Net income: the accounting period, the continuity doctrine and matching concept. Objectives of measurement.

  ii. Revenue recognition: Recognition of expenses.

  iii. The nature of depreciation. The accounting concept of depreciation. Factors in the measurement of depreciation. Methods of computing depreciation: straight line method and diminishing balance method; Disposal of depreciable assets-change of method.

  iv. Inventories: Meaning. Significance of inventory valuation. Inventory Record Systems: periodic and perpetual. Methods: FIFO, LIFO and Weighted Average. Salient features of Indian Accounting Standard (IND-AS): 2

(b) Final Accounts **(6 Lectures)**

Capital and revenue expenditures and receipts: general introduction only. Preparation of financial statements of non-corporate business entities B.Com.: CBCS Scheme

- **Unit 3: Accounting for Hire-Purchase and Instalment Systems, Consignment, and Joint Venture (9 Lectures)**

  i) Accounting for Hire-Purchase Transactions, Journal entries and ledger accounts in the books of Hire Vendors and Hire purchaser for large value items including Default and repossession.
  ii) Consignment: Features, Accounting treatment in the books of the consignor and consignee.
  iii) Joint Venture: Accounting procedures: Joint Bank Account, Records Maintained by Coventurer of (a) all transactions (b) only his own transactions. (Memorandum joint venture account).

- **Unit 4: Accounting for Inland Branches** **(6 Lectures)**

  Concept of dependent branches; accounting aspects; debtors system, stock and debtors system, branch final accounts system and wholesale basis system. Independent branches: concept accounting treatment: important adjustment entries and preparation of consolidated profit and loss account and balance sheet.

- **Unit 5: Accounting for Dissolution of Partnership Firm** **(5 Lectures)**

  Accounting of Dissolution of the Partnership Firm Including Insolvency of partners, sale to a limited company and piecemeal distribution

Arrangement of lectures duration and practical session as per defined credit numbers:

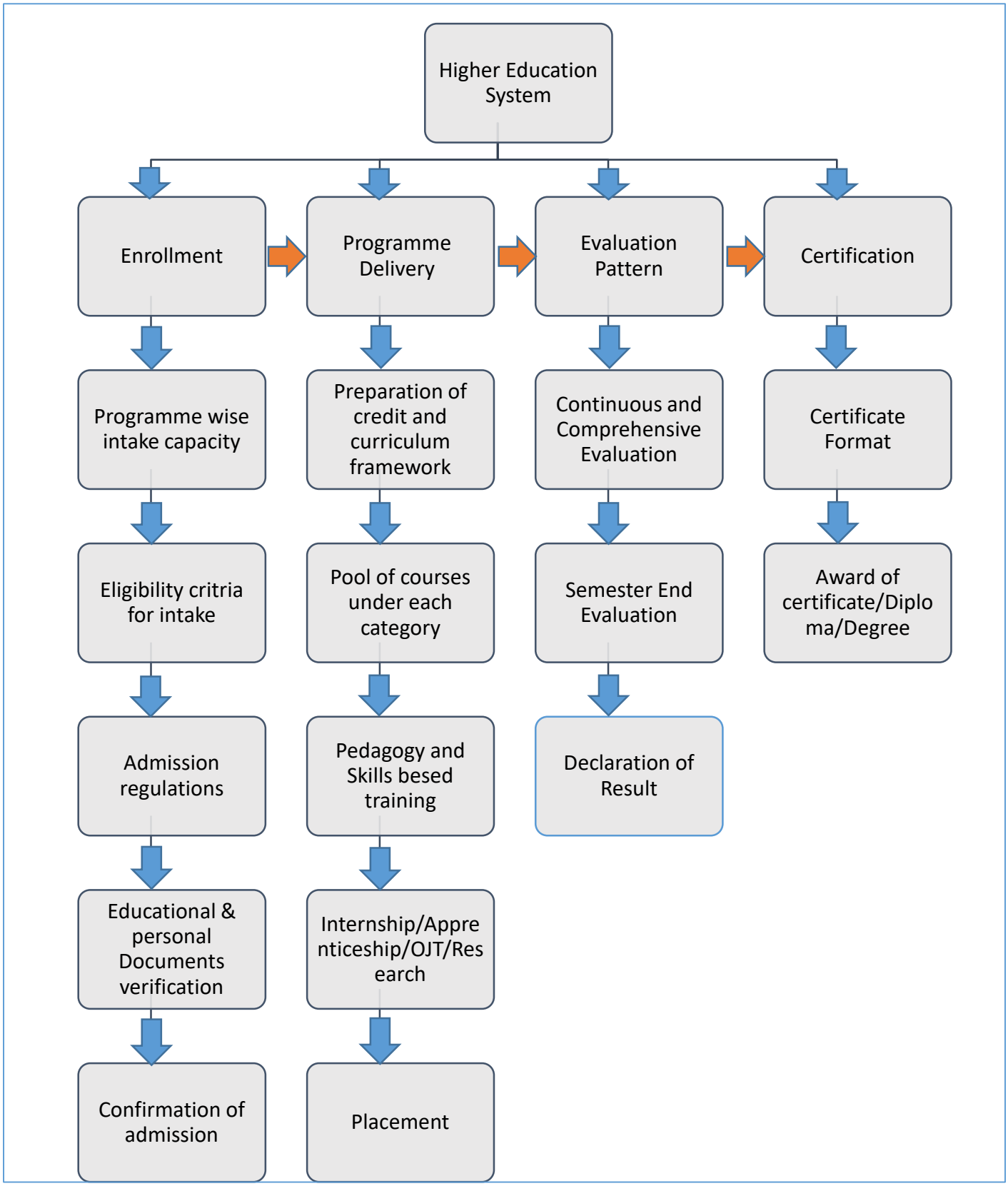
Units	Lecture Duration (In Hrs.)		Calculation of Credits (In Numbers)		Total Lecture Duration	Credit Calculation
	Theory	Practical	Theory	Practical	Theory + Practical	Theory + Practical
Unit 1	12	8			20	
Unit 2	13	7			20	
Unit 3	9	7			16	
Unit 4	6	3			9	
Unit 5	5	5			10	
Total	**45**	**30**	**3**	**1**	**75**	**4**

Evaluation

Theory marks	Practical Marks	Total Marks
75	25	100

Chapter 4
Transforming of Education System in Higher Education Institutions

4. Transforming of Education System in Higher Education Institutions



The overall higher education sector will be an integrated system, inclusive of academic, professional, and vocational education. The policy also suggests for opening new departments needed for multidisciplinary subjects, including Languages, Literature, Music, Philosophy, Indology, Art, Dance, Theatre, Education, Mathematics, Statistics, Pure and Applied Sciences, Sociology, Economics, Sports, and Translation and Interpretation.

The transformation of institution is a long-term process. It requires extensive efforts with a planned structure. This can be done by:

- Transform single-stream institutions into large multidisciplinary universities and autonomous degree-awarding HEIs.
- Adaptation of Multiple Entry and Multiple Exit system.
- Change in rigid traditional evaluation system to new evaluation system.
- Integration with Academic Bank of Credits.
- Promote Online/ODL mode of education with proper infrastructure support.
- Globalization of Higher Education.
- Promote IKS in all streams of education.
- Strengthen institutional infrastructure necessary for multidisciplinary education and research.
- Academic collaboration between institutions, through HEI clusters, leading to multidisciplinary education and research in different modes.
- Merger of single-stream institutions with other multidisciplinary institutions under the same management or different managements. The merger institution shall exchange a signed MoU, mentioning the scope of work, responsibilities of each institution with exchange of academics, faculties, and assessment process.
- Strengthening of institutions by adding departments in subjects such as: Languages, Literature, Music, Philosophy, Indology, Art, Dance, Theatre, Education, Mathematics, Statistics, Pure and Applied Sciences, Sociology, Economics, Sports, Translation and Interpretation and other subjects as needed for a multidisciplinary institution.
- In case of merger of institution and adding new department, it is a time-consuming process, and it has to follow State Regulations and Formalities. Hence, it is recommended to develop a mechanism to exchange the faculties and students for immediate transformation into multidisciplinary institutions.
- The Standard procedure can be used to:

1. Decide the discipline to be associated.
2. Identify Institutions which can be from same or nearby cities.
3. Identify the infrastructural capacities of both the institutions.
4. Exchange of MOU by deciding scope of work, management control, number of courses to be studied, numbers of students and faculties to be exchanged, mode of education (Preferably online/virtual mode) and methods of assessment.
5. Certificate will be issued by the parent institution.

Chapter 5
Adaptation of Multiple Entry and Multiple Exit System

5. Adaptation of Multiple Entry and Multiple Exit System

National Education Policy (NEP) 2020 seeks to reform the Higher Education system by providing, flexibility to students in terms of choice of subjects to study and academic pathways. A creative combination of disciplines for study with multiple entry and exit points is an important recommendation of NEP- 2020.

The multiple entry and exit points in the academic programmes offered at Higher Education Institutions (HEIs) can remove rigid boundaries and create new possibilities for students to choose and learn the subject(s) of their choice. In addition, it will pave the way for seamless student mobility, between or within University/Degree-Granting HEIs through a formal system of credit recognition, credit accumulation, credit transfers, and credit redemption.

Flexible learning is important to choose one's academic pathway leading to the award of certificate, diploma, and degree. Students will have flexibility to choose the course from pool of courses available in the same of other HEIs.

Considering the programmes designed in employment-centric, following Four Classroom-Four Awards concepts can be adapted by HEIs to award the degree at UG level:

5.1 Admission Path for Undergraduate Programme (First Degree-Level 4.5)

- It is important to define the eligibility criteria much before the process to start of admission for current academic session.
- Students who have successfully completed Grade 12 OR its equivalent shall be eligible for admission to a first-degree programme.
- The admission will be merit based as notified by the university, using the guidelines/ norms issued by the UGC, concerned statutory bodies and the state government.
- The merit list shall be prepared by considering the reservation policy issued by the state/ central government from time to time.
- Student enrolment will be according to the academic and physical facilities available keeping in mind the norms regarding the student-teacher ratio, the teaching-non-teaching staff ratio, laboratory, library, teaching-learning tools. In case of facing the deficit of these issues, the HEIs will also have flexibility to hire part-time faculty and association with other HEIs for sharing academic infrastructure to mitigate these kinds of issues.

- The in-take capacity will be determined at least three months in advance by the university/institution through its academic bodies in accordance with the guidelines/ norms issued by the UGC, concerned statutory bodies and the state government and same should be suitably incorporated in the admission brochure and uploaded on the institutional website.
- Depending upon the academic and physical facilities available, the HEIs may earmark seats for lateral entrants to the second year/ third year/ fourth year of a first-degree programme.
- The lateral entry will be valid for those students who has either:
  a) Successfully completed the first year/ second year/ third year of the same programme in any other institution, or
  b) Already successfully completed a first-degree programme and is desirous and academically capable of pursuing another first-degree programme in an allied subject.

5.2 Operational Details

To enable multiple entry and exit points in the academic programmes, qualifications such as Certificate, Diploma and Degree are organized in a series of level as illustrated in below table:

Qualification title and Credit requirements		
NCrF/NHEQF Level	**Qualification Title**	**Credit Requirement**
Level 4.5	Undergraduate Certificate Programmes Duration: First year or two semesters of the undergraduate programme	44
Level 5.0	Undergraduate Diploma Programme Duration: First two years or four semesters of the undergraduate programme	88
Level 5.5	Bachelor's Degree Programme Duration: Three years or six semesters	132
Level 6.0	Bachelor's Degree (Honours/Honours with research) Programmes Duration: Four years or six semesters	176

5.3 Various Options Under Multiple Entry and Exit

Following is the entry and exit options for the students who enter pursue the undergraduate programmes:

1st Year:

Entry 1: The entry requirement for level 4.5 is based on the documentary evidence obtained after the successful completion of grade 12 and should meet the entrance requirements, availability of seats, admission and fees regulations of the institutions.

Exit 1: A UG certificate shall be awarded if a student exit at the end of year one (two semesters) after successfully securing 44 credits. The student also needs to secure 4 additional credits in summer internship/Apprenticeship in the major discipline or multidiscipline offered course.

2nd Year:

Entry 2: The entry requirement for level 5.0 is a UG certificate obtained from any institution and meet the entrance requirements, availability of seats and admission and fees regulations of the institutions.

Exit 2: A UG diploma shall be awarded if a student exit after two years (four semesters) after successfully securing 88 credits from level 4.5 to 5.0, with 44 credits at level 5.0. The student also needs to secure 4 additional credits in summer internship/Apprenticeship in major discipline or multidiscipline offered course.

3rd Year:

The entry requirement for level 5.5 is a UG Diploma obtained from any institution and meet the entrance requirements, availability of seats and admission and fees regulations of the institutions.

A UG Degree of concerned course shall be awarded if a student discontinues after three years (six semesters) of education, successfully securing 132 credits from level 4.5 to 5.5, with 44 credits at level 5.5

4th Year:

A student seeking admission to a 4-year bachelor's degree (Honours/Honours with Research) (Level 6.0) in a specified field of learning, must have completed all requirements of the relevant three-year bachelor's degree (Level 5.5) and meet the entrance requirements, availability of seats and admission and fees regulations of the institutions.

A Bachelor's Degree (Honours/Honours with Research) of concerned course shall be awarded if a student completed four years (eight semesters) of learning, after successfully securing 176 credits from level 4.5 to 6.0, with 44 credits at level 6.0

5.3.1 Re-entry in same or different institutions

Students who are opting for exit at any level, shall re-enter the institution to complete the UG Degree, where they had left off. They can re-enter in the same or other HEIs within three years of exit and complete the degree programme within the stipulated maximum period of seven years from the date of admission to UG programme.

Suppose Jignesh joined to pursue B.Sc. Physics in the year 2023 in Gujarat University for four years UG Degree program. In the year 2024, Jignesh planned for some skills-based education or employment, and he left the institution after accumulation of 44 credits along with 4 credits of summer internship (Jignesh will be get awarded with UG Certificate in Physics).

After three years, Jignesh decides to continue his academic journey. Now he can re-join in the second year of study in the year 2026 either at Gujarat University or another institution, based on UG Certificate and the eligibility criteria of the concerned institutions.

5.3.2 Lateral entry in different institutions

A student who wants to change the institution in continuation of academic year, he/she can change the institution based on minimum 70% matching of course curriculum and meet the entrance requirements, availability of seats and admission & fees regulations of that HEIs. All other conditions will be application to complete the programme.

5.3.3 Regulatory Requirements

Either for re-entry into the same or different institutions or lateral entry into any institution, students must meet the entrance requirements, availability of seats and admission regulations of the regulatory body and concerned institutions.

Chapter 6
Provision of Online/Open and Distance Learning (ODL)

6. Provision of Online/Open and Distance Learning (ODL)

6.1 Online Learning and Hybrid Mode of Learning

As per UGC Curriculum and Credit Framework for Undergraduate Programs, it has paved the way to offer a maximum 40% of the credit/learning through online courses. The courses shall be approved by institutions as per the existing UGC regulations.

Whereas it provides the flexibility to students to switch to alternate modes of learning i.e., Offline, ODL, Online Learning and Hybrid mode of learning.

SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds) platform has been made available by the Government of India for online courses.

6.1.1 Learning Facilitating Centre

- The online learning courses available on the SWAYAM Platform will be considered for credit transfer.
- The University shall ensure no overlap of SWAYAM-MOOC exams with that of the university mid-semester/internal exam and end-semester/external exam.
- Any regular student will be permitted to opt for only up to 40% of the total courses being offered, through the online learning courses provided through the SWAYAM platform.
- Students opting for an online course shall be required to register for MOOCs (Massive Online Open Courses) course/paper through SWAYAM and it will be mandatory for them to share necessary information with the college/institution.
- While allowing the online learning courses offered by SWAYAM, University shall provide the adequate physical facilities like laboratories, computer facilities, library, etc. essential for pursuing the courses.
- University designates a Single Point of Contact (SPOC) Mentor/facilitator to guide the students throughout the course and to facilitate/conduct the lab/practical sessions/examinations.
- Students can pursue the MOOCs on SWAYAM platform which will be offered by:

✓ UGC (University Grant Commission)
✓ CEC (Consortium of Educational Communication)
✓ IIM-B (Indian Institute of Management- Bangalore)
✓ NPTEL (National Programme on Technology Enhanced Learning)
✓ IGNOU (Indira Gandhi National Open University)
✓ NITTTR (National Institutes of Technical Teachers and Training Research)
✓ AICTE (All India Council for Technical Education)

6.2 Open and Distance Learning (ODL) Programmes

Open and Distance Learning is a distinct approach to impart education to learners who are removed in space and / or time from the teachers or the teaching institution on account of economic, social and consideration.

The Government of India through its notification CG-DL-E-05092020-221580 dated 04th September 2020, namely UGC (Open and Distance Learning Programs and Online programs) Regulations 2020, it lays down minimum standards for instruction for the grant of degrees at the undergraduate and post-graduate level and grant post-graduate diploma through ODL mode and Online mode.

6.2.1 Provision of Learning on ODL mode:

1. Only eligible and UGC recognized institutions can provide the ODL mode of learning. Students from any other institution must register in that institution to pursue UG/PG/PG Diploma courses.
2. Minimum duration for completion of UG level shall be 3/4 years to award degree/honours respectively and 1/2 years to award PG Diploma/Degree.
3. Maximum duration allowed for completion and award of degree at UG/PG level shall be double the minimum duration of the respective programmes.
4. An HEI other than an Open university shall offer programme in ODL mode and/or online mode with total credits and minimum duration for the programmes kept same as that of corresponding programmes in regular mode.
5. ODL mode of learning shall be offered to facilitate the pace of learning and multiple choice for learners and prepare easily understandable Self Learning Materials (SLM).
6. HEIs offering programmes in online mode shall prepare the E-Learning material.
7. Each course in the online mode shall have a precise assessment mechanism for identify leaning outcomes at each level for both continuous/formative and summative assessment.

6.2.2 Admission and Evaluation Mechanism for Online/ODL mode:

Admission:

A. The intake capacity under ODL mode for a programme under the science discipline shall be three times of the approved intake in regular mode.
B. Fees may be applicable as declared by the HEI in the prospectus and website.
C. Maintain the record of Aadhar Card /other Government approved ID for Indian students and Passport for International students should be maintained for at least period of five years.

Evaluation for Online/ODL mode of education:

1. Continuous or formative assessment with a maximum 30 per cent weightage
2. Summative assessment in the form for end semester or term-end examination with a minimum 70 per cent weightage, provided that minimum 75 percentage attendance of the students in terms of participation in activities.
3. Marks and grades obtained in both evaluations shall be shown separately in the grade card.

4. A Higher Educational Institution offering programme through Online mode shall conduct examinations either using technology-enabled online test with all the security arrangements ensuring transparency and credibility of the examinations or through the Proctored Examination and in conformity with any other norms for such examination.
5. The Examination Centre shall have proper monitoring mechanisms for Closed Circuit Television (CCTV) recording of the entire examination procedure and biometric system and in case of non- availability of the Closed-Circuit Television facilities, the Higher Educational Institution shall ensure that proper videography be conducted, and video recordings are submitted by particular in charge of examination centre to the concerned Higher Educational Institution.
6. The attendance of examinees shall be authenticated through a biometric system as per Aadhaar details or other Government identifiers of Indian learners

6.2.3 Credit Calculation

1. If a student attends an online/ODL session under the supervision of faculty members in a classroom, then the calculation of credit will be as per regular study mode i.e., 1 Credit theory = 15 Hrs. of learning and 1 credit of practical= 30 Hrs. of learning.
2. If a student attends an online/ODL session in Self Learning Mode, then calculation of 1 credit theory = 30 Hrs. of learning.

Procedure for Credit Transfer

The procedure for transferring credits from Online/ODL courses in the University are as follows:

1. During the current semester, the candidate must submit an undertaking while filling exam form for credit transfer.
2. On the due permission granted by the Controller of Examination/Registrar of University, the student need not appear for university exam for the exempted course(s).
3. The concerned department of the institution will intimate the exam section about the completion of a course along with the certificates of completion and the list of students, who have passed MOOCs in the current semester.
4. On successful completion of each course, the institute offering MOOCs would issue the certificate(s), along with number of credits and grade awarded. Certificate will be issued by the parent institution.
5. If a 4-credit courses is not available as per the student's choice, then the student can opt for 3 credit course and one credit can be acquired through continuous internal evaluation through mentor.
6. The student who has qualified in the proctored examination conducted and applied for credit transfer as specified, is exempted from appearing in the CCE and SEE (for internal as well as external for the specified equivalent credit course only) conducted by the University.
7. If the students opt for additional MOOCs above 40%, it will be considered as add-on credit and will be reflected on the marksheet or separate certificate but not be taken for tabulating CGPA.

Anticipatory Measures

1. The existing or new university-level CBCS credit transfer committee shall resolve any issues that may arise in the implementation of transferring credit earned by students through online/ODL mode.
2. The university shall review its credit transfer policy in light of periodic changes brought by UGC, Open University, SWAYAM, NPTEL and the State Government from time to time.

6.3 Certification

1. Each award of Degree at UG/PG level and PG Diploma for both ODL and Online mode shall be assigned a unique identification number with photograph, Aadhar number and Name of the Programme. Each award shall also be uploaded on the National Academic Depository (NAD).
2. It shall be mandatory for HEI to mention the following on the backside of each of the degrees/certificates and mark sheets issued to the learners (for each semester certificate and at the end of the programme):
   a) Mode of delivery
   b) Date of admission
   c) Date of completion
   d) Name and address of all Learner Support Centres (only for Open and Distance Learning)
   e) Name and address of all Examination Centres.

6.4 Students Support System

1. The fee waiver and/or scholarship schemes for Scheduled Caste, Scheduled Tribe, Persons with Disabilities category of learners shall be in accordance with the instructions or orders issued by Central Government or Gujarat Government
2. Promotion of Online and ODL mode of learning in Special Education Zone and for PwD students.
3. Provide academic as well as administrative support to the learners.
4. A full-time dedicated help desk with single window services for all learner's related queries.
5. Arrangements of self-learning material to learners for ODL programmes.
6. Details of study material and information.
7. Support for admission related matters.
8. Pre-admission counselling for prospective learners to provide information for joining a specific programme.

6.4.1 Provision of Education System for Persons with Disability (PwD) Students

Person with Disability (Divyangjan-Physical/Hearing/Visual)

The National Education Policy (NEP)-2020 emphasizes on equal opportunity for education for all including Person with Disabilities, irrespective of Caste, Gender, and Abilities. The NEP-2020 has

accelerated the need for creation of an 'inclusive education' system that caters to students with both visible and invisible disabilities.

To facilitate inclusive education for all including Persons with Disabilities, the HEIs are being directed by UGC to constitute 'Equal Opportunity Cell (EOC)'.

The Institute should constitute a EOC with the following composition:

1. Senior Faculty – Nodal Officer /Coordinator for EOC
2. Faculty – Member
3. Non-Teaching Staff – Member
4. Student – Member
5. Representation from Voluntary Organization – Member
6. Registrar – Member Secretary

The roles and responsibilities of the EOC are summarized below:

1. To promote the admission of PwD students in technical institutions.
2. To Create awareness among stakeholders in equal opportunities regularly.
3. To address special needs of the students pertaining to teaching-learning process.
4. To provide special assistance in the training and placement of students with disabilities.
5. To establish a teacher-mentor scheme for PwD students right from entry to exit from the institute
6. Develop disabled friendly teaching-learning process making use of modern tools and assistive technologies.

6.4.2 Accessible Infrastructure Facility

For Persons with Physical Disabilities:

1. Provision for ramp and wheelchair to enter classrooms, laboratories, toilets, and other areas within the building.
2. Provision for lifts to accommodate wheelchair users to move different floors.
3. Provision for signages for easy movement.
4. Reserved seats in the classroom and parking place.

For Persons with Hearing Impairments:

1. Provision of information board in an easily understandable manner.
2. Good acoustics in the classroom environment (Noisy fans can be distracting to persons wearing hearing aids).
3. Provision for signages, and layout map for movement to the desired place.

For persons with Visual Impairments:

1. Provision for Braille Signages including tactile paving.
2. Unobstructed covered corridors with handrails.
3. Removal of protruding objects and low-level flooring.
4. Reserved dedicated parking.

6.4.3 Provision of Accessible Teaching-Learning Process

Training of teachers for those who have full-time/part-time responsibility towards these activities, special care of these students and special online/ODL Courses.

1. Use of 'Universal Design Techniques'. There should be multiple modes of expression. For example, the concept should be conveyed in text, audio, visual, mind maps and practical (learning by doing) format in teaching-learning process.
2. Training of Teachers in communication skills for handling differently-abled students.
3. Development and use of E-Learning resources embedded with sign language interpretation and subtitles.
4. Provide service of conversion of required instructional material into an accessible format such as accessible digital format, large print, braille, tactile graphics, etc.
5. Suitable modifications in the curriculum to suit the needs of differently-abled students i.e., manual drawing may be replaced with CAD etc.

6.4.4 Special Provisions for Examination

Different examinations/board have their own guidelines for persons with disability. Provision of scribes for students who find difficulty in writing, to bring their own scribes during examinations both Common Entrance Test and Institute / University exam.

1. Scribes to be provided as per the guidelines issued by the Department of Empowerment of Persons with Disabilities, Government of India.
2. Extension of time up to 20 minutes per hour should be given to the students who use scribes and students find difficulty in writing examinations.
3. 20% to 50% of question of objective type in the question paper.
4. Permit and make adequate arrangements for the use of computer for writing examinations with provision of softcopy of question paper in accessible format.

6.4.5 Additional Support and Linkages

- Tie-ups with NGOs who are dealing with differently abled person.
- Placement & support services.
- Employer sensitization.
- Awareness of disability rights and reservation policies.
- Community reach programmes.
- Implementation & Monitoring of Standards of Accessibility.

- Disability Database Management System (DDMS).
- Internship and Career Advancement activities:

All HEIs are required to include the details related to the availability of barrier-free environment for students with disabilities, on their websites including details of the admission process, and available support services.

Chapter 7
Evaluation Reforms

7. Evaluation Reforms

7.1 Current Examination System

The current examination system is usually based on the question paper which tests only memory recall as a skill. This pattern has many drawbacks resulting in stress and anxiety for students, increase in manual workload, single nature of assessment, compromise in quality of question paper, inaccuracy in marking questions and so on.

7.2 New Evaluation System

To overcome the limitations of an old evaluation system, there is a need for reforms that ensure credibility and the outcome of the assessment system. There is a need to have more horizontal assessment modes in all forms of education (Regular, Online and ODL) rather than one single vertical mode that decides the fate of students. It leads to the overall development of students in terms of critical thinking, problem-solving ability, right application of knowledge, and maintaining ethics.

The evaluation process should be formulated to make a systematic evaluation of students' progress based on UGC guidelines. The evaluation must be designed with learner attributes in mind. These attributes have clear linkages to Programme Education Objectives and Outcomes. The evaluation consists of the following two components:

1. Continuous and Comprehensive Evaluation (CCE)- Formative
2. Semester End Evaluation (SEE)- Summative

CCE carries 50% of the total marks allotted to a subject and the other 50% being assigned to the SEE.

In each course, every credit carries 25 marks, of which 50% marks is assigned for CCE and rest 50% marks for SEE. The 50% marks assigned to the CCE is distributed between the continuous classroom evaluation and mid-term evaluation. The pattern may be as follow:

Sr. No.	Evaluation	4 credit subjects (Marks)	2 credit subjects (Marks)
1	CCE (50%)		
	Classroom & Mid-Term Evaluation	50	25
2	SEE (50%)	50	25
	Total	**100**	**50**

7.2.1 Continuous and Comprehensive Evaluation (CCE)

Subject–wise CCE will be undertaken by the concerned faculty member. The mode of evaluation will be decided by the faculty member concerned with the subject. Normally CCE consists of class participation, case analysis and presentation, assignment, tutorials, slip tests (announced/ surprised), quizzes, attendance etc. or any combination of these. The students are expected to submit their answer scripts/ reports of internal evaluation within the stipulated time. Failure to do so may result in the script not being valued. Another part of CCE consists of mid-term written evaluation, which is

compulsory for all students. It can be done in a scheduled manner. The duration of the mid-term evaluation shall be one hour.

7.2.2 Semester End Evaluation (SEE)

The SEE carries 50% of the marks assigned to a course. SEE shall be of 2 ½ hours for 4 credit course and 2 hours in case of 2 credit courses. The controller of the examination will conduct these examinations. Paper setting and evaluation will be done by the external examiners to an extent of 50% of the evaluation process. This examination shall be conducted as per a schedule which shall be notified in advance.

Th backlog exam will be conducted twice a year just after the result declared of the semester evaluation. Students shall have a second chance to clear their backlog and avoid the burden to carry forward the backlog with the next semester exam.

Appearance in all the evaluations is mandatory and no exemption can be granted except in the following case:

1. In case of inability to attend the exam due to reasons considered genuine by the controller of examination in consultation with the Director/Board.
2. In case of medical emergency, a certificate from the registered medical practitioner must be produced before the commencement of exams. The evaluation board will then take final decision on the recommendation for exemption.

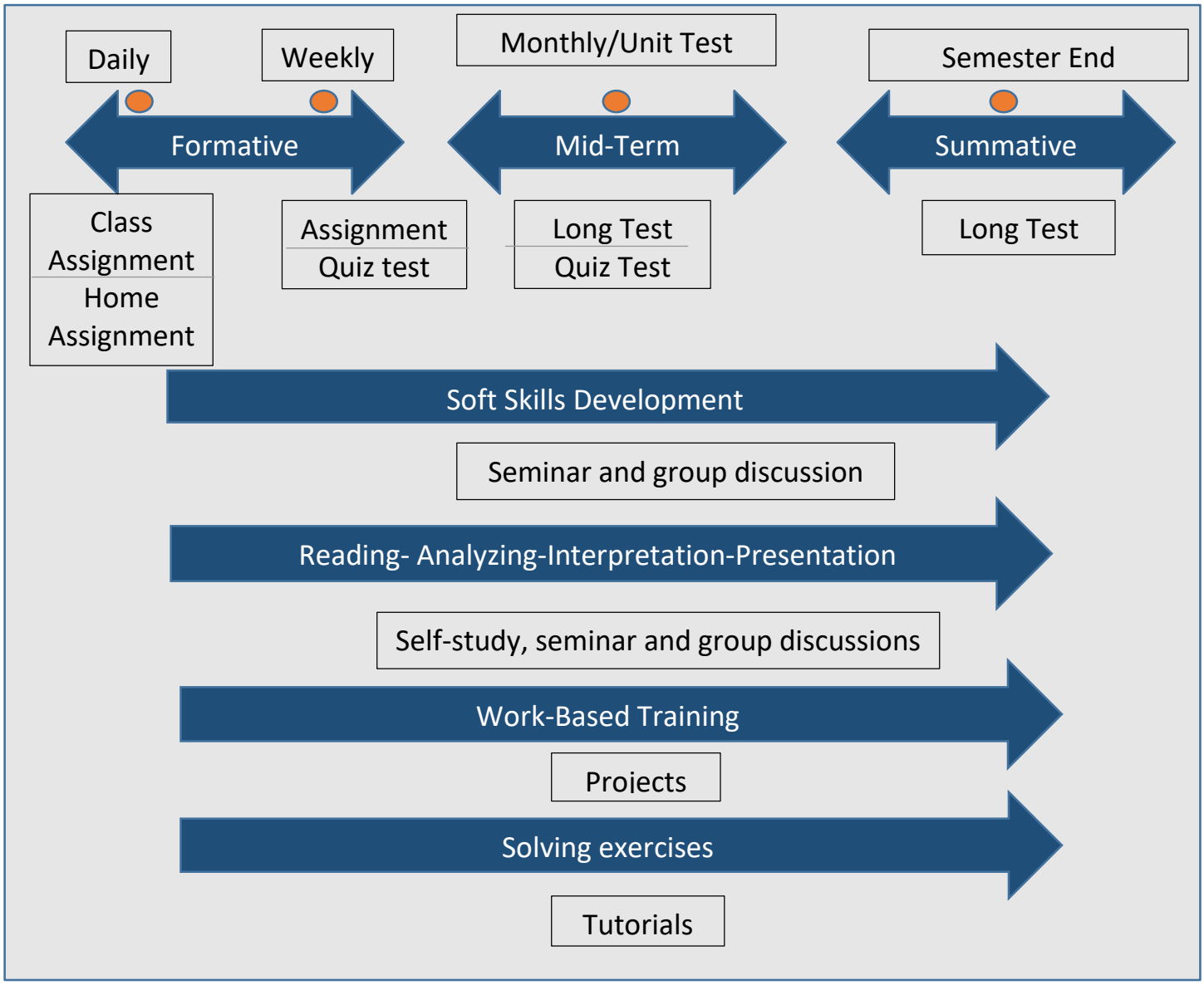
7.3 Eligibility Criteria to appear in SEE

To be able to appear for the SEE, a student must comply with the following conditions:

1. Should have at least 75% of attendance in all the courses put together
2. Should have at least 70% of attendance in each course/subject
3. Should not have any disciplinary proceedings pending against him/her
4. Should have no pending due

7.4 Continuum of Evaluation

Evaluation must be continuous which may include both formative and summative components in a timely manner for continuous feedback as follow:



7.5 Assessment Band

NCrF proposes that the NCrF levels be equated with the assessment/ major assessment stage which will be a mandatory stage for a student/learner to clear. Between two mandatory stages, there may be 2-4 levels depending on whether it falls in the purview of school or higher education. The clubbing of these levels has been referred to as Assessment bands. The Credits earned for the two courses/ qualifications/ programmes or through experiential learning (either Regular/ Online/ ODL mode of education) may be accumulated and added if earned in the same assessment band, subject to the guidelines of respective regulators. The regulator may also consider setting up broad learning outcomes for each level and band so defined.

Accordingly, the assessment bands so formulated are indicated below:

Academic Band	Academic Grade/Level	NCrF Credit Level	Min. Credit earned/Year	Assessment Band
2 Years-Secondary	Class-IX	2.5	40	Assessment Band- III
	Class-X	3.0	40	
2 years-Senior secondary	Class-XI	3.5	40	Assessment Band- IV
	Class-XII	4.0	40	
4 Year UG Degree with Honours/ Honours with Research	UG-1st Year	4.5	40	Assessment Band- V & VI
	UG- 2nd Year	5.0	40	
	UG- 3rd Year	5.5	40	
	4th Year UG with Honours/ Honours with Research PG- 1st Year	6.0	40	
PG Degree (1/2 Years)	PG 2nd Year /1-year PG/1st Year (Engg.)	6.5	40	Assessment Band-VII
	PG 2nd Year (Engg.)	7.0	40	
Doctoral Degree	Ph.D.	8.0	40	Assessment Band-VIII

7.6 Mode of Evaluation

A wide range of modes of evaluation for evaluating students is available for the teachers/ institutions to use. A suitable compendium of such a mode needs to be carefully chosen for a particular program depending on its nature, objectives, and available resources. The mode of evaluation can be as below:

Written Mode	Oral Mode	Practical Mode	Integrated Mode
1. Semester Exam 2. Class Test 3. Open book exam/test 4. Open note exam/test 5. Self-test/ Online test 6. Essay/Article writing 7. Quizzes/Objective test 8. Class assignment 9. Home assignment 10. Reports Writing 11. Research/Dissertation 12. Case Studies	1. Viva/Oral exam 2. Group Discussion 3. Role Play 4. Authentic Problem Solving 5. Quiz 6. Interview	1. Lab work 2. Computer simulation/virtual labs 3. Craft work 4. Co-curricular work	1. Paper presentation/Seminar 2. Field Assignment 3. Poster presentation

Nature and Objectives of various types of evaluation:

Written Mode		
Evaluation Type	**Nature**	**Objectives**
Semester Exam	Traditionally essay type	For depth and planned preparation
Class test	Traditionally essay type	Fixed date forces students to learn
Open book test	Allowed choice of reference book	Measures what students can do with resources, less stress on memory
Open note test	To get used to the system	Encourage good note taking
Self-test	For subjective and objective items	Mastery learning occurs with proper feedback
Article/essay writing	Individual long written assignment	Individual expression and creativity
Quizzes/Objective test	Short duration structured test	Excellent validity as greater syllabus coverage
Class assignment	With defined time	Student's performance to make decision
Home assignment	With undefined time	Reinforce learning and facilitate mastery of specific skills
Reports Writing	On activities performed or event observed	Develop a key transferable skill
Research/Dissertation	Detailed research-based report	To judge creativity and research skills
Case Studies	Analyse a given case (real or fictional)	To assess thinking, value, and attitude

Oral Mode		
Evaluation Type	**Nature**	**Objectives**
Viva/Oral exam	Individually or in small group	Practical experience towards job interview situation
Group discussion	Small group of 2-5 members work on a joint task	Encourage teamwork
Role Play	Small group of 2-5 members work on a joint task	Develop personality
Authenticate problem solving	Small group of 2-5 members work on a joint task	Communication of ideas
Quiz	Small group of 2-5 members work on a joint task	Assess memory power
Interview	Individually	Judge the personal confidence level

Practical Mode		
Evaluation Type	**Nature**	**Objectives**
Lab work	Component of working with one's hand	Keep the students on the task
Computer simulation/virtual labs	Component of working with one's hand	To understand the practical exposure
Craft work	Component of working with one's hand	Encourage application of concepts learnt
Co-curricular work	Component of working with one's hand	For immediate feedback

Integrated Mode		
Evaluation Type	**Nature**	**Objectives**
Paper presentation/Seminar	Group or individual work	Learn from others presentation
Field Assignment	Field visit with report	Develop observation and recording skills
Poster presentation	Group or individual work	Develop research, creativity, and discussion skills

7.7 Models of evaluation

Based on the types of evaluation, various models of evaluation implementation are suggested for theory, practical, self-study and work-based learning. The focus of these models is to encourage the students to improve on skills and performance.

Model for Theory Courses CEE- 50% (100) SEE- 50% (100)	
Exam Pattern	**Marks**
Class Test (best 2 out of 3)	30
Quiz (Best 3 out of 4)	30
Active Learning	10
Home Assignment	10
Class Assignment	10
Attendance	10
Continuous and Comprehensive Evaluation	**100**
Semester-End Evaluation	**100**

Model for Practical Courses CEE- 50% (100) SEE- 50% (100)	
Exam Pattern	**Marks**
Lab work assessment (best 3 out of 4)	45
Viva voce/Lab quiz (best 3 out of 4)	45
Attendance	10
Continuous and Comprehensive Evaluation	**100**
Semester-End Evaluation	**100**

Model for Project/Self-study course CEE- 50% (100) SEE- 50% (100)	
Exam Pattern	**Marks**
Project Evaluation (Best 4 out of 5)	80
Participation in discussion	10
Attendance	10
Continuous and Comprehensive Evaluation	**100**
Semester-End Evaluation	**100**

Model for work experience course CEE- 50% (100) SEE- 50% (100)	
Exam Pattern	**Marks**
Project Evaluation (Best 4 out of 5)	80
Participation in discussion	10
Attendance	10
Continuous and Comprehensive Evaluation	**100**
Semester-End Evaluation	**100**

7.8 Question Paper Setting

Following procedure may be adopted to develop a question paper (Regular/ODL mode) of a particular course:

- Specifying objective/learning outcome to be tested
- Decide the question format
- Pool of question from the expert
- Review of questions
- Pilot testing
- Assessment of difficulty of the questions
- Final selection of question from the pool of questions

7.9 Malpractices and Punishment

All students are warned not to resort to any kind of malpractice during the evaluation. The examination department/board may take appropriate actions against the concerned student(s) who is/are found to indulge in any kind of malpractices activities during the evaluation process.

7.10 On-Demand Evaluation

On-Demand Examination may provide flexibility to students, especially those enrolled under open and distance education modes. This system works on the principle of flexibility where assessment can take place when the learner considers themselves ready to appear. Thus, readiness depends on the learner and not on the institutions. An advantage of this system may result in a reduced number of failures in the examination.

7.11 Letter Grades and Grade Points

The relative grading system provides the relative performance of a student to a group/class wherein the student is ranked in a group/class on the basis of relative level of achievements.

HEIs may also mention the marks obtained by the students in each course and a weightage average of marks on the Grade sheet for the benefits of the students.

Letter Grade	Grade Point	Marks (In %)
O (Outstanding)	10	97.0-100
A+ (Excellent)	9	87.0-96.9
A (Very Good)	8	77.0-86.9
B+ (Good)	7	67.0-76.9
B (Above Average)	6	57.0-66.9
C (Average)	5	47.0-56.9
P (Pass)	4	37.0-46.9
F (Fail)	0	Below 37.0
Ab (Absent)	0	Absent

7.11.1 Semester Grade Point Average (SGPA)

The SGPA is based on the grade of the current term of the programme of study.

Computation of SGPA

SGPA is computed from the grades as a measure of the student's performance in each semester. It is the ratio of the sum of the product of the number of credits with the grade points and the sum of the number of credits. i.e.

SGPA (Si) = $\sum$ (Ci X Gi) / $\sum$Ci

Where Si is the SGPA for i^{th} course, Ci is the number of credits of the i^{th} course and Gi is the grade point scored by the student in the i^{th} course.

Example for computation of SGPA:

Semester	Course	Credit	Letter Grade	Grade Point	Credit Point
1	Course 1	3	O	10	3X10=30
1	Course 2	4	A	8	4X8=32
1	Course 3	3	A+	9	3X9=27
1	Course 4	4	B	6	4X6=24
1	Course 5	3	B+	7	3X7=21
		17			**134**
SGPA					**134/17=7.88**

7.11.2 Cumulative Grade Point Average (CGPA)

The CGPA is based on the grades in all the courses taken after joining the programme of study.

Computation of CGPA

The CGPA is the ratio of the sum of the products of total credits scored in a particular semester with the SGPA scored by the student in that semester and the sum of the total number of credits of each semester. i.e.

CGPA = ∑ (Ci X Si) / ∑ Ci

Where Si is the SGPA of the i^{th} semester and Ci is the total number of credits in that semester.

Example for computation of CGPA:

Semester	Credits	SGPA	Sum of Credits and SGPA
1	18	8.2	18X8.2= 147.6
2	18	7.9	18X7.9= 142.2
3	20	8.3	20X8.3= 166.0
4	22	8.6	22X8.6= 189.2
5	18	8.1	18X8.1= 145.8
6	22	8.5	22X8.5= 187.0
	118		**977.8**
CGPA			977.8/118= 8.29

The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts (Grade Sheet). The transcript may issue for each semester based on SGPA and CGPA and consolidated transcript indicating the performance in each semester.

7.12 Result Declaration

Declaration of results is a crucial element of the educational system of a higher educational institution on which rests its credibility and reputation. Timeliness is essential in case of both internal and external components of the evaluation. The following table shows a suggested timeline for CCE and SEE:

Continuous and Comprehensive Evaluation	
Daily Task	Before the next week
Weekly Task	Before the next task
Unit Test	Within one week
Semester End Evaluation	
Internal Components	7-10 working days
External Components	20-30 working days

Chapter 8
Academic Bank of Credits (ABC)

8. Academic Bank of Credits (ABC)

"Academic Bank of Credits (ABC)" means an academic service mechanism as a digital/ virtual/ online entity established by University Grants Commission to facilitate students to become its academic accounts holder, thereby paving the way for seamless student mobility between or within degree granting HEIs through a formal systems of credit recognition, credit accumulation, credit transfer and credit redemption to promote distributed and flexible teaching learning.

Academic Bank of Credits (ABC) has been established on the lines of the National Academic Depository (NAD), where the student's academic data are held, and academic awards are stored (i.e., storehouse of academic awards). The ABC enables students to register or commence credit transfer. The final outcomes of credit redemption, issuance of certificates as well as the compilation of award records are administered by academic institutions via the NAD Platform. Hence being the owner of academic awards, Academic Institutions must mandatorily register themselves under ABC via NAD.

8.1 Responsibility, Monitoring, and Support of HEI

1. It shall be the responsibility of registered HEIs to constitute an ABC committee under the supervision of Vice Chancellor to monitor the development and operation at HEI level.
2. Registered HEI shall provide training support to faculty, staff and other members for proper execution and functioning of ABC.
3. The quality assurance must be monitored under the supervision and guidance of Board of examination & evaluation.
4. The HEI shall declare and upload annual reports regarding progress and activities under ABC.
5. The grievance redressal committee constituted by the examination board, shall be responsible to address the grievance and appeal related to ABC.

8.2 Credit Bank for Students

ABC enables students mobility across HEIs to help in seamless integration of skills and experiences into a credit based system. Students can accumulate credits from prior learning experiances. Students must register on the ABC portal to ensure the availability of credits in their ABC account. ABC ID must be submitted to the academic institutions to transfer the credits to their respective ABC account.

How to create ABC ID

Login to DigiLocker	**Search for Education**	**Create ABC ID**	**Accumulate Credits**
Student with DigiLocker Account can create ABC ID	Education Category shows ABC service	Select your university and click on generate ABC ID	Students can check accumulated credits by login into https://www.abc.gov.in

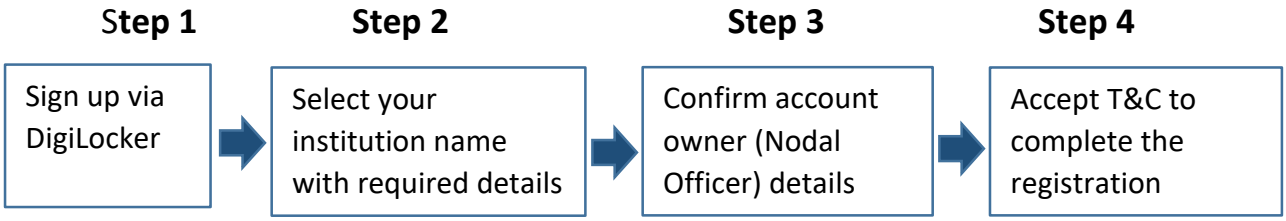
The purpose of the credits is to facilitate students to become academic accounts holder, thereby paving the way for seamless students' mobility between or within Degree Granting HEIs through a formal system of:

- **Credit recognition:** The credit earned through a registered HEI and transfer directly to the ABC by such HEI.
- **Credit accumulation:** The facility created by ABC to transfer and consolidate the credits earned by the students by undergoing courses.
- **Credit transfer:** The mechanism by which registered HEIs can receive or provide prescribed credits to individual's ABC in adherence to the UGC credits norms for the course undertaken by the students.
- **Credit redemption:** The process of commuting the accrued credits in the ABC of the students maintained in ABC for the purpose of fulfilling the credits requirements for the award of Certificate/Diploma/Degree by the registered degree awarding HEIs.

Students will have their own ABC accounts, each with their own ABC ID, as well as a dashboard where they can track their credit accumulation, transfer requests, and credit history.

8.3 Registration of Academic Institutions under NAD

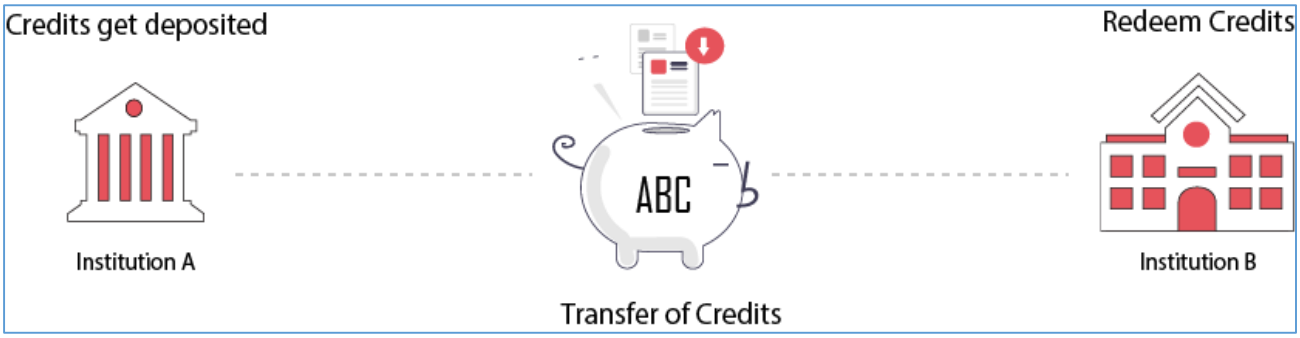
An institution can registered themselves on NAD in following four easy steps:



Once the registration process is completed, the account owner will receive a welcome email. In the next step, all the provided details will be verified by the NAD and UGC teams. After successful verification, the accounts get approved, and a confirmation email is sent to the nodal officer. Now institution can publish data on DigiLocker.

8.4 How the credit system works

ABC shall deposit credits awarded by registered institutions into student's account. Credits awarded to a student for one programme from an institution may be transferred/redeemed by another institution upon student consent. If the student moves to a different institution, the accumulated credits get transferred to the account of the new institution. Credits may be transferred from an institution to be accumulated in another programme offered by the same or another institution. Once the credit is redeemed for the award of programmes, it would be irrevocably debited from the respective student's 'Academic Account' of ABC.



8.4.1 Workflow for credit transfer

Registration

- Student registers with their mobile number through DigiLocker.
- A unique ABC ID is allotted.
- ID can be shared to academic institute with which the student is enrolled.

Login

- Student logs in with an OTP from registered mobile number.
- Student accesses ABC dashboard.
- Credits mapped to ABC ID displayed on Dashboard.

Transfer Initiation

- Student selects credits of his/ her choice
- Initiates transfer by selecting the academic Institute.
- Provides additional details necessary for transfer.

Credit Transfer Process

- Academic Institution checks the eligibility of the transfer request based on the UGC Guidelines.
- The Academic Institute approves/ rejects credit transfer request partially or fully based on the course structure.
- Provides reason for approval/rejection in the remarks column.

Request Status

- Student can check the request status.
- Gets notified of the credit transfer.
- All credit trails are maintained and reflected in student's account.

8.5 Detailed Operating Procedure for Students

Registration:

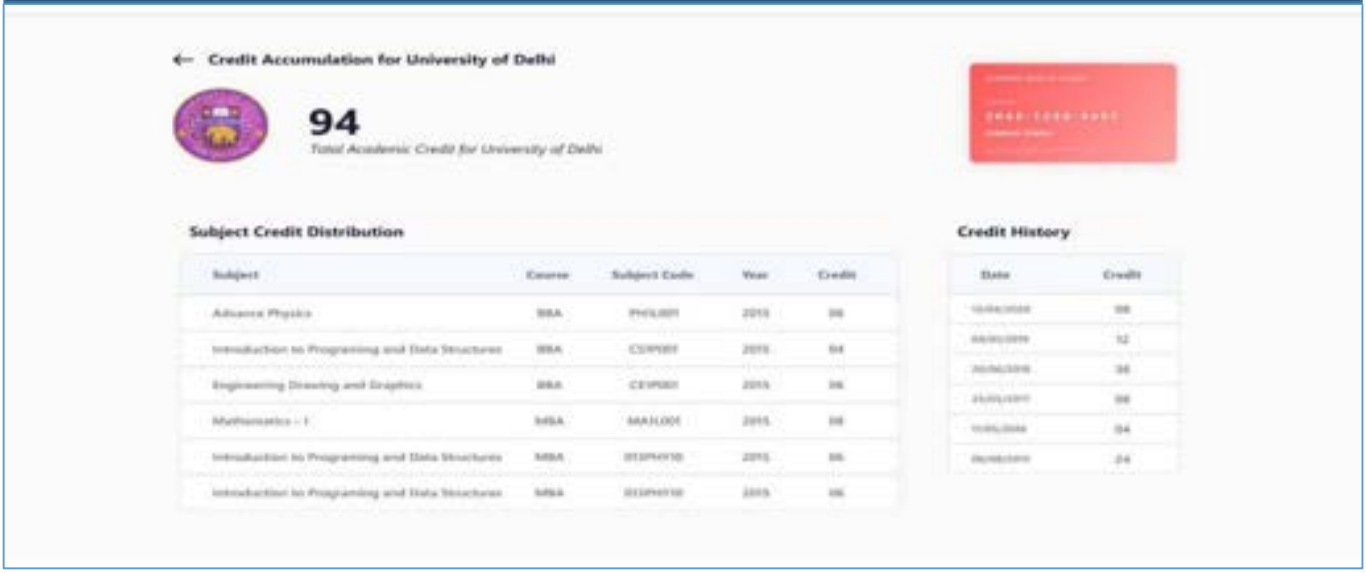
Students can register on ABC by logging in at www.abc.digilocker.gov.in. → click on My Account → Login as Student → Click on "Sign up with DigiLocker" → Enter valid mobile number → An OTP is sent at the phone → Enter the OTP and click on "Continue" button → Enter Security PIN set created during Sign Up and click "Submit"

Dashboard:

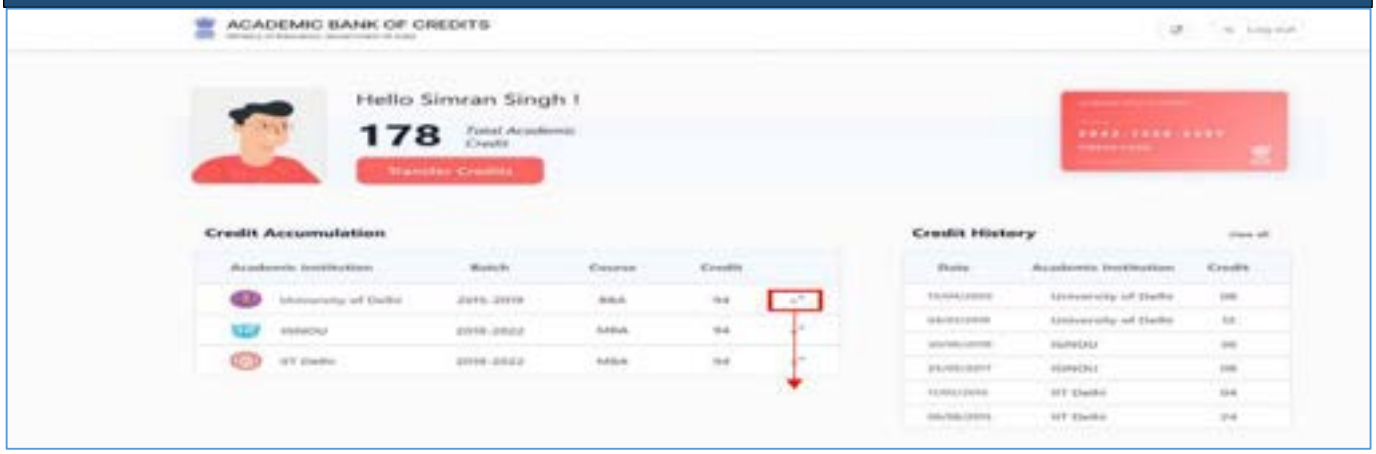
Step 1: Click on the “Go to Dashboard” button → ABC will try to fetch any ABC ID linked Credit data (but for the new user it generally shows a “No, Credits added yet”

Step 2: Student must provide ABC ID to the corresponding Academic Institutions from where they are pursuing/completed their courses, to enable the academic institutions to upload credits against student’s ABC ID on DigiLocker

Once an academic record along with the credit score is uploaded by the academic institutions, the credit score will be reflected in the student’s ABC account



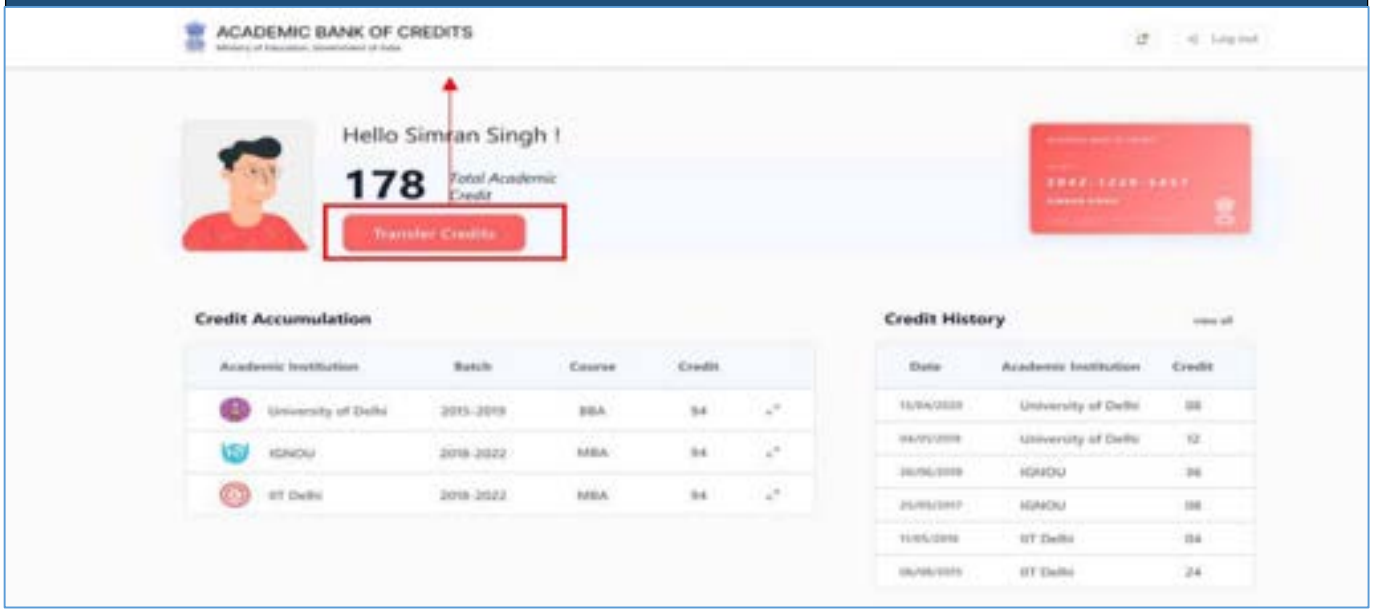
Step 3: Detailed Subject wise credit distribution can be viewed by pressing the expand button of the “Credit Accumulation” window



8.6 Credit Flow Mechanism

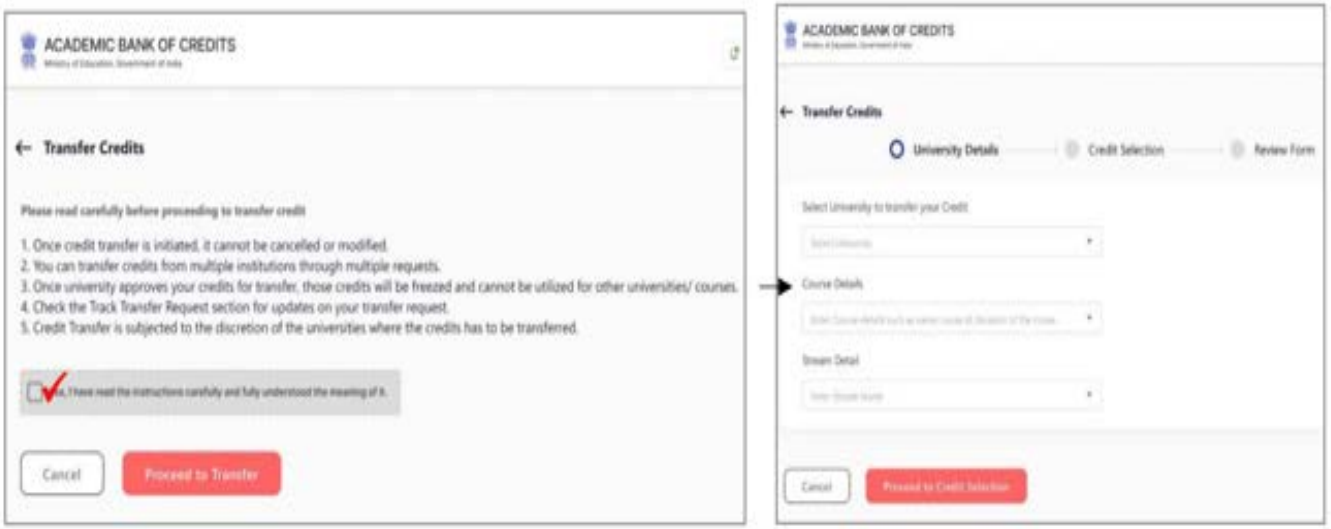
8.6.1 Steps to be Followed by Students

Step 1: Students can initiate credit transfer process by clicking on “Transfer Credits” button appearing on the home screen

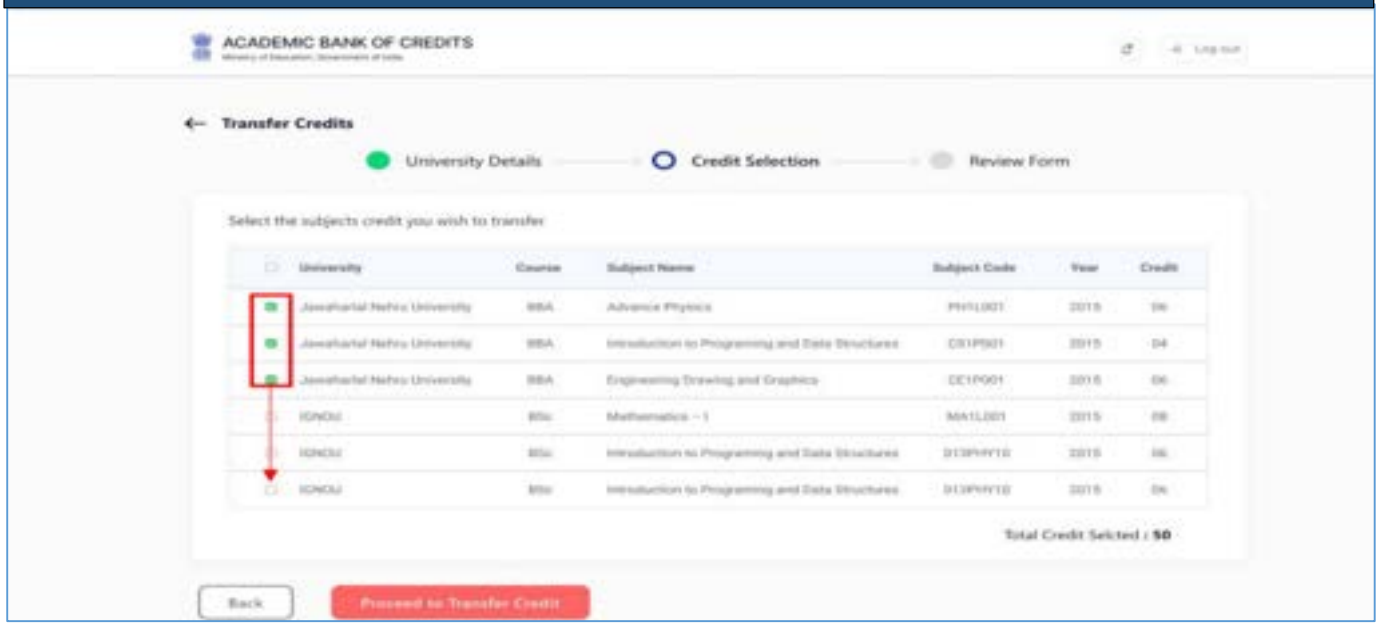


Step 2: Click on the checkbox ✓ to provide your consent to the terms and conditions the conditions (please read them carefully) → Proceed to Transfer

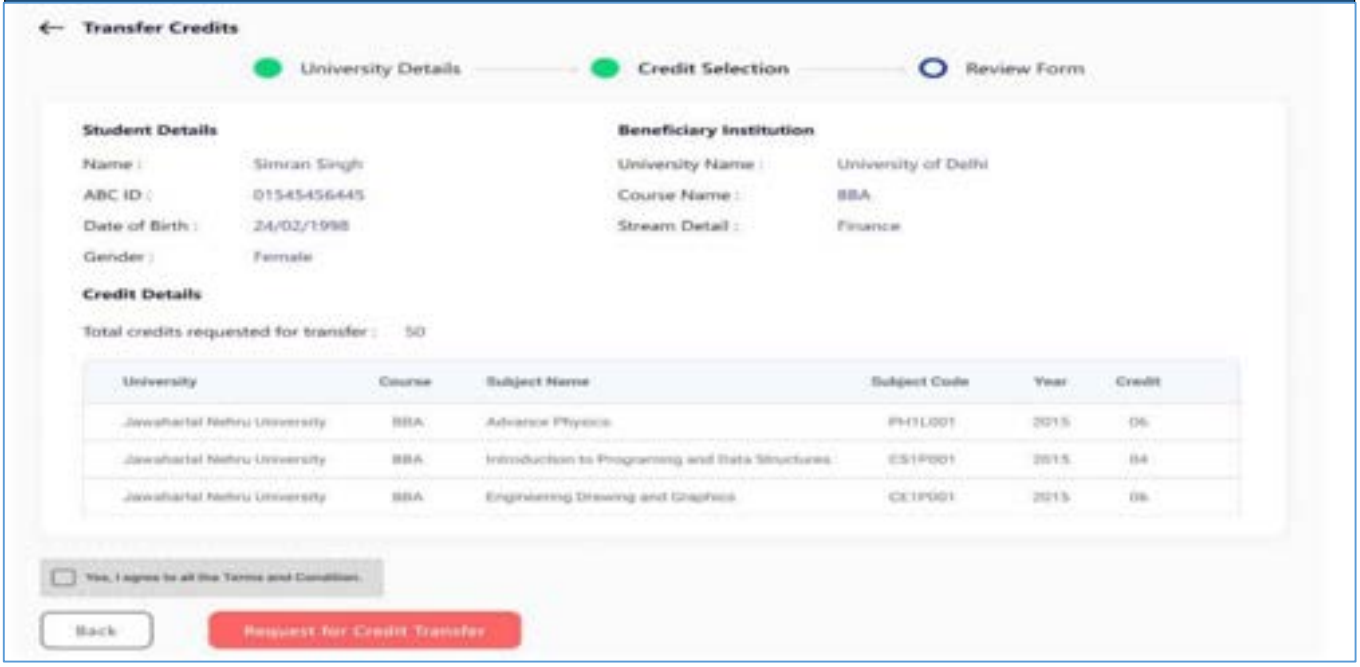
Select “University to transfer your credit”, “Course Details” and “Stream Detail” →Proceed to Credit Selection



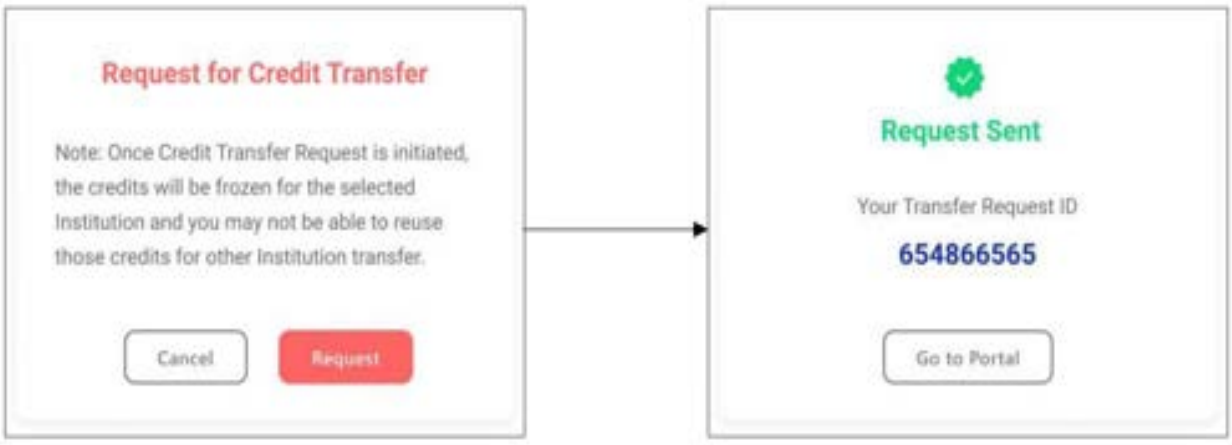
Step 3: Select the subject credits you wish to transfer by clicking on the checkboxes (multiple selection is possible) → Proceed to Transfer Credit



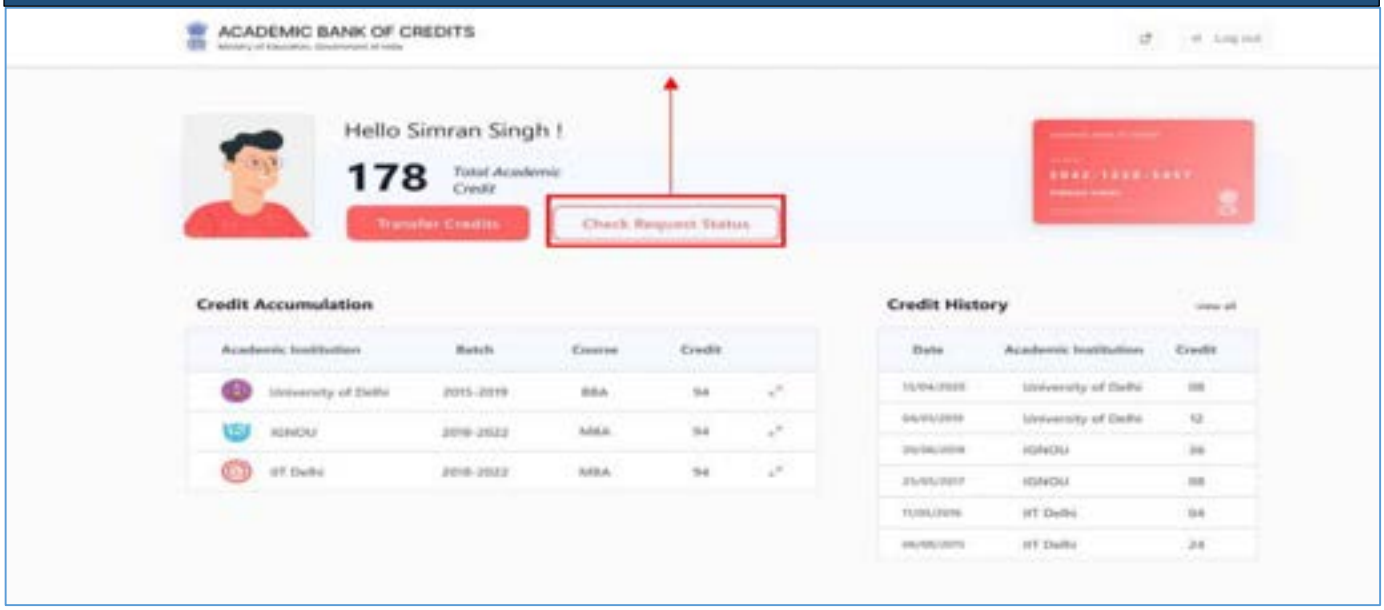
Step 4: Review the subject credits selected →click on the checkbox to agree the terms and conditions →Proceed for Credit Transfer



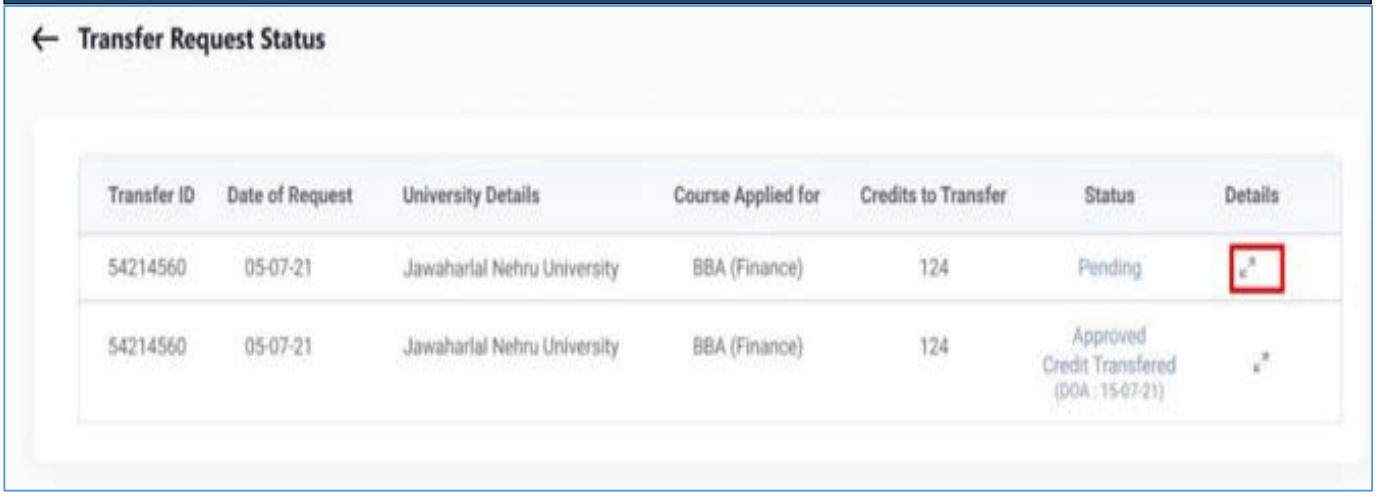
Step 5: A dialogue box will be prompted (please read it carefully before proceeding) → Click on the Request Tab (The request will be sent with a Transfer Request ID)



Step 6: Back on the Home screen, you will now see “Check Request Status” button → click to view the Transfer Request Status (until processed, it will show status as “pending”)

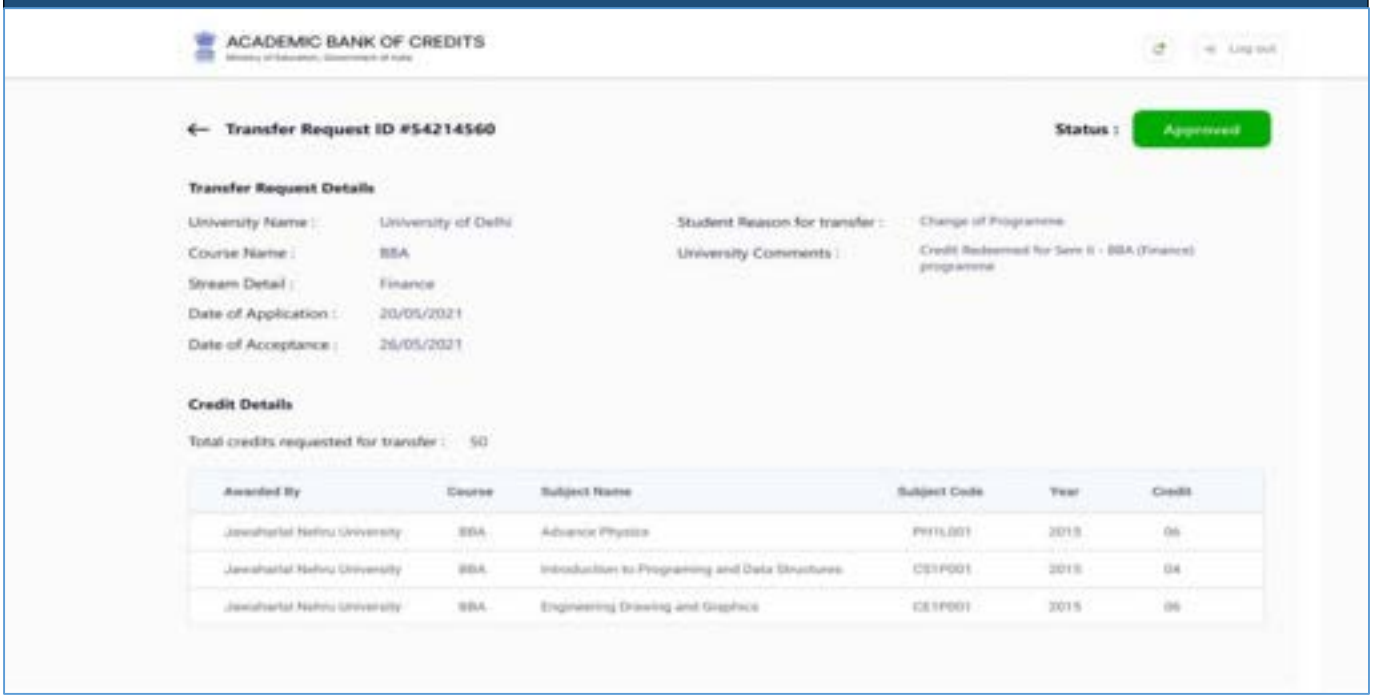


Step 7: Details can be viewed by pressing the expand button appearing on the “Transfer Request Status” window



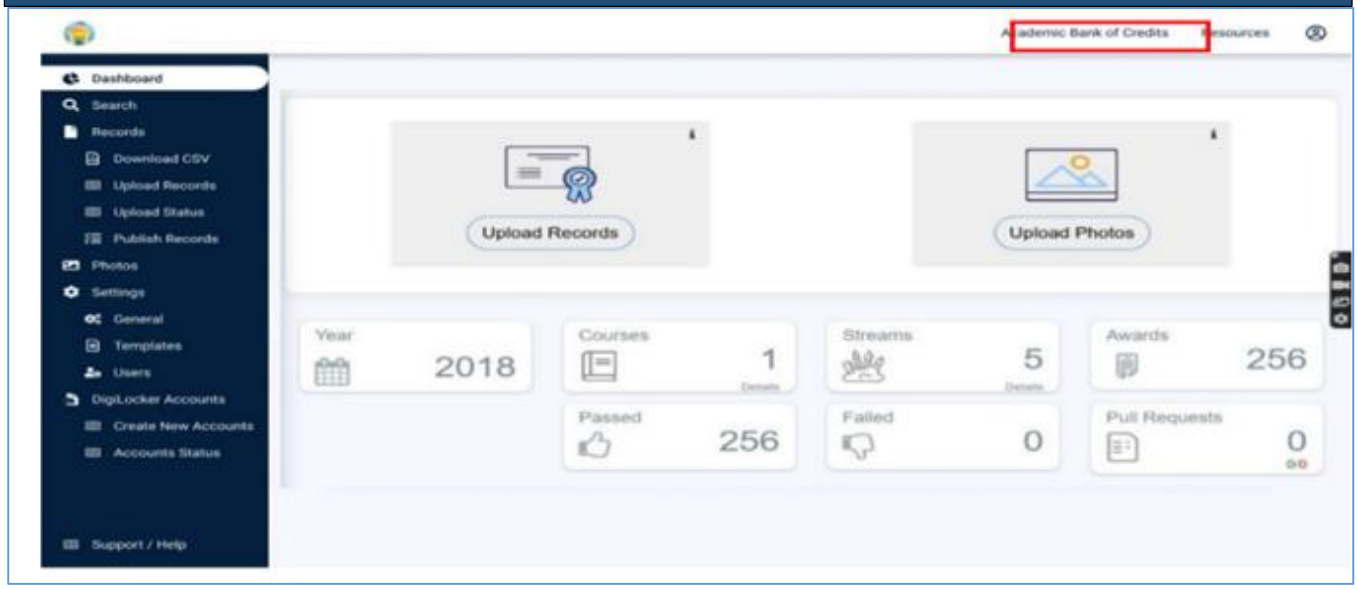
Step 8: Students can see the status of Pending, Approved and Rejected (for approval and rejection, your will get the academic institution's comments/remarks)

Step 9: After approval of the request, page will reflect with "Approved" in green colour

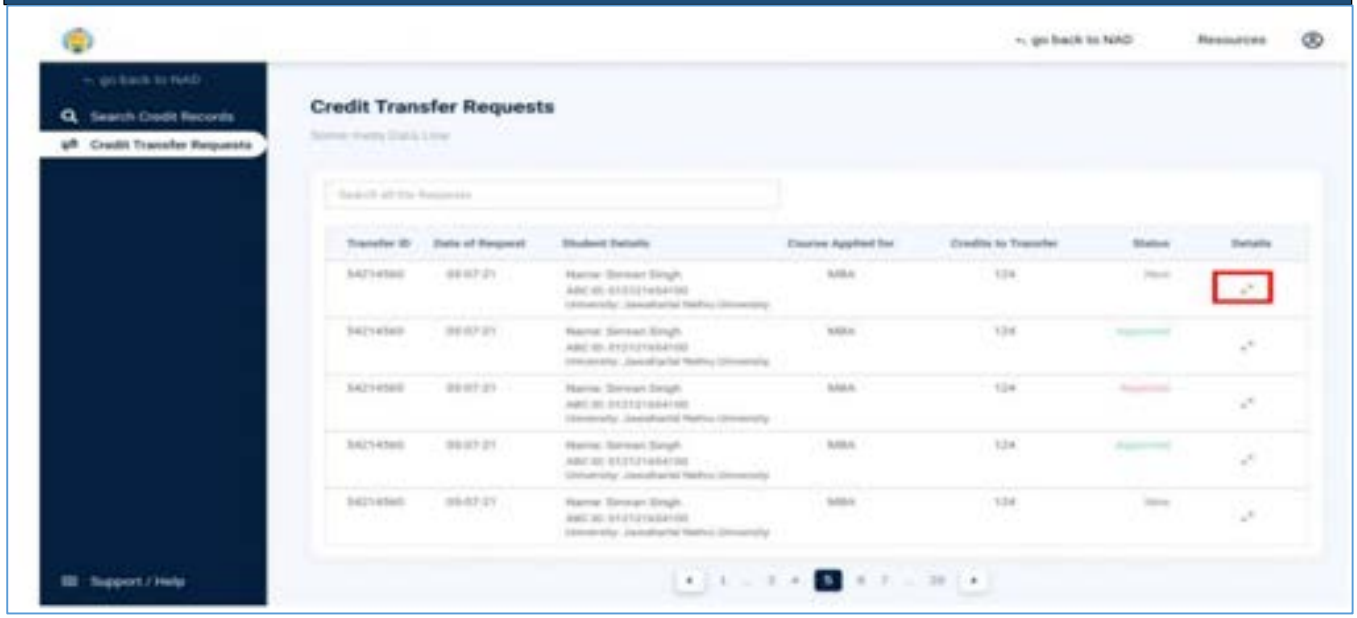


8.6.2 Steps to be Followed by Institutions

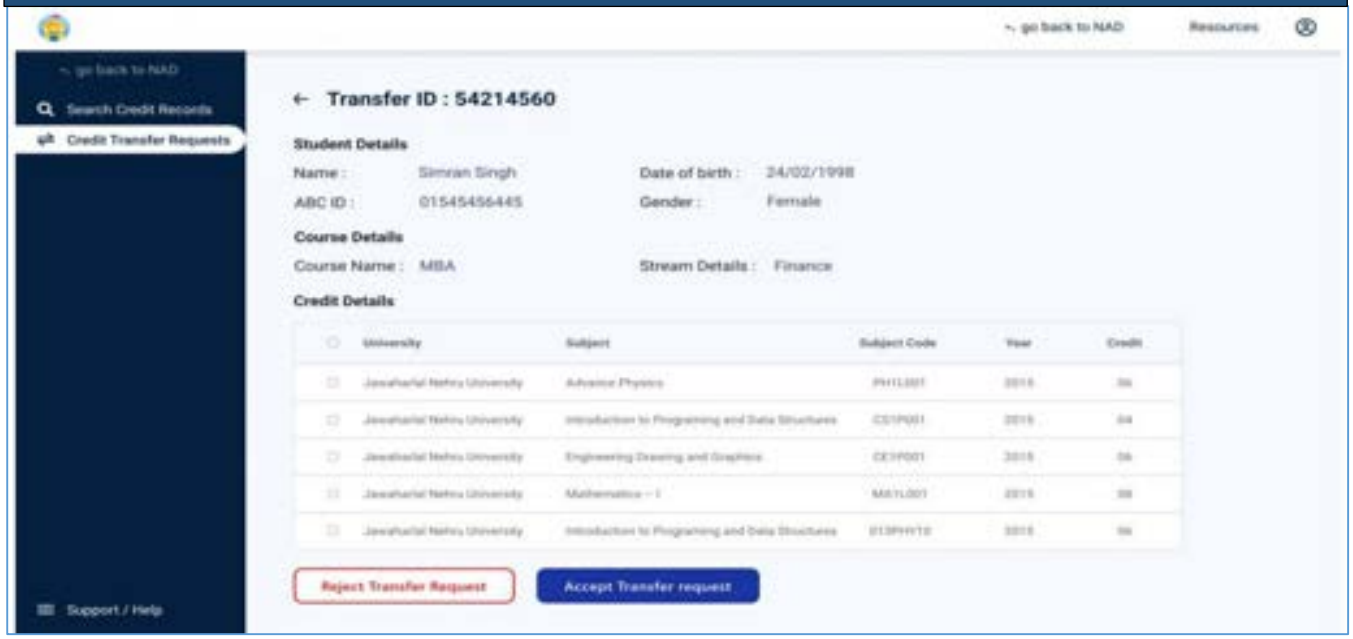
Step 1: Only ABC registered Institutions can process transfer requests. Registration of an Academic Institution will be done via DigiLocker NAD system. Academic Institutions → Click on “Academic Bank of Credits”



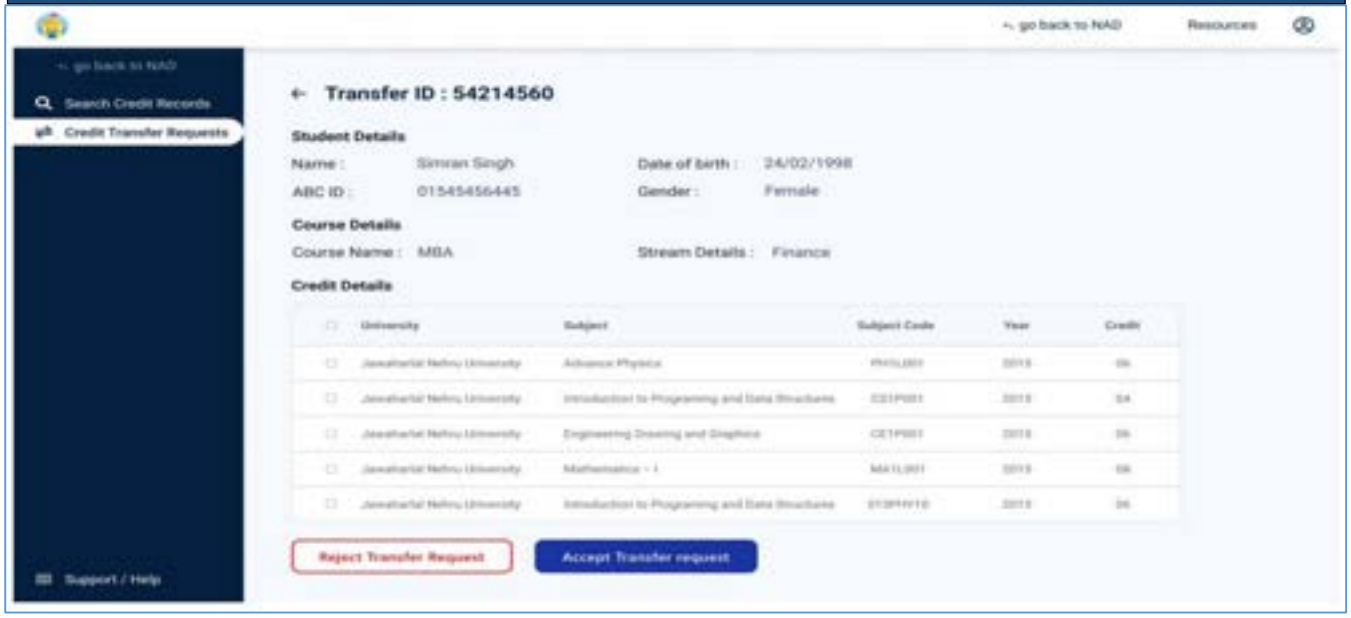
Step 2: All Credit Transfer Requests and their corresponding status will be shown on the dashboard



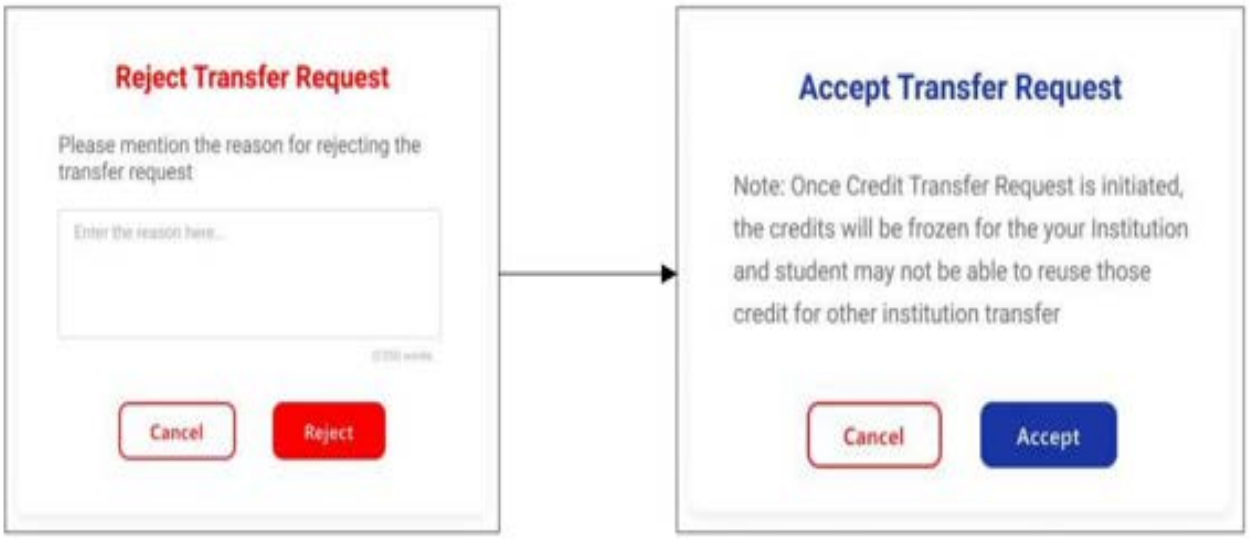
Step 3: Click on expand icon to view individual student request



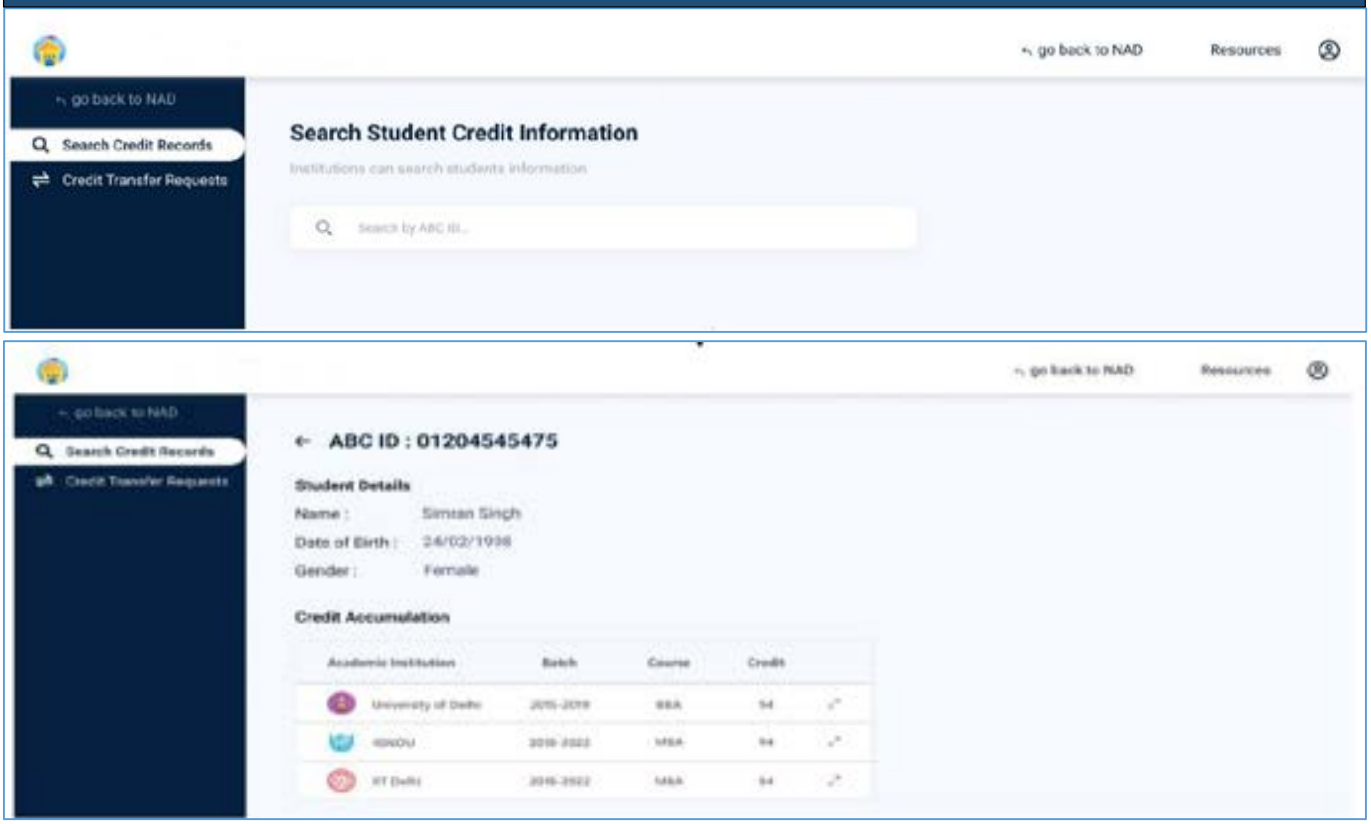
Step 4: Institution will either approve/reject the transfer request



Step 5: Academic Institutions will provide reasons/remarks for acceptance/rejection



Step 6: Academic Institutions can search for student credit records by using their ABC IDs



Chapter 9
Indian Knowledge System (IKS)

9. Indian Knowledge System (IKS)

National Education Policy 2020 has recommended and emphasized on inclusion of Indian Knowledge system in the curriculum at all levels of education. Accordingly, UGC has issued a 'guideline for incorporating Indian Knowledge System' on 13th June 2023 to facilitate a seamless integration of Indian traditional knowledge with modern subjects. It has recognized the importance of IKS as the bedrock of Higher Education System in India and accordingly suggested incorporating curriculum related IKS in related subjects in letter and spirit.

The undergraduate curriculum is said to be diverse and has varied subjects. The primary purpose is to support institutions to come up with courses that will introduce all aspects of IKS related to their field of study.

9.1 Credit Weightage

A. Under the guidelines issued by UGC, the credit weightage is suggested to be at least 5% of mandated credit (i.e., minimum of 8.8 credits in case of students enrolled for four-year UG Programme of 176 credits).
B. Furthermore, it is suggested that 50% credit assigned for IKS should be related to Major disciplines which are part of IKS (i.e., minimum 4.4 credits). Whereas the other 50% (i.e., minimum 4.4 credits) can be included as a part of the mandated Multidisciplinary courses that are to be taken by every student.
C. HEIs must also offer 2 courses of IKS with 2 credits each under Value added course (VAS). This would be the over and above the mandated credits suggested by UGC.
D. Relevant to the concerned UG programme, students should be offered/ select foundational courses in IKS which will present an overall introduction to all the streams of IKS. The foundational course would be broad-based and shall cover introductory material on all aspects of IKS.
E. For experiential aspects of IKS, sessions on Yoga, Meditation, Ayurveda, Classical Music, Tradition, and Indian Craft should be arranged for the students.
F. The students enrolled for UG programme for Sanskrit or Indian Language should take following course under IKS:
    i. Foundational Course for two -semester to present over all introduction of all streams of IKS.
    ii. Two-semester multi-Disciplinary course on IKS and Contemporary Knowledge in selected discipline. The University shall try to offer courses in several disciplines that are part of IKS.

9.2 Teacher's Training on IKS

1. Training and Orientation in the UGC-recognized institutions are typically conducted by various agencies such as Human Resource Development Centers and Pandit Madan Mohan Malviya National Mission on Teacher Training (PMMMNMTT).
2. The training is crafted for two categories of faculties.
    i. Faculty experts in their domain subject but may not have deep knowledge of IKS.
    ii. Freshly inducted faculty who many do not have experience in managing large classes.

Accordingly, separate induction/orientation programme and refresher courses will be conducted. The main objective of all tracing programme shall be to generate a positive attitude towards IKS and promote interest in knowing and exploring more.

9.2.1 Refresher Courses

i. Faculty must be exposed to a common underlying philosophical foundation across disciplines in the IKS.
ii. At least one or two lectures on the fundamental vocabulary of IKS must be concluded to familiarize faculty with the common terms used in IKS.
iii. Emphasize on providing exposure to the primary text of IKS which is required for deeper understanding.
iv. Refresher Course must focus on the development of course under the following categories:
    - **Multidisciplinary Courses** – the primary aim is to sensitize teachers about interdisciplinary education which is key aspect of NEP-2020.
    - **Discipline-Specific Courses** – The course should aim to focus on the subject and be designed to provide a comprehensive understanding of the discipline in IKS.
    - **Specialized Courses** – are to be designed for providing in-depth and comprehensive knowledge of a particular text. The course developed in a range of subjects across natural science, social sciences, humanities, engineering, medicine, agriculture, community knowledge system, fine and performing arts, vocational skills etc. which have IKS content. It is expected that the course must have a clear mapping of the traditional subjects of IKS with the modern subjects.

9.2.2 Induction of IKS for Faculty

Ideally, the induction of IKS should be for 30 hrs. in the format of 10-10-10. It must include,

i. Overview of IKS.
ii. Case studies
iii. Pedagogy related to IKS.

A Minimum of total 10% of the total time spent during induction should be spent for the induction programme.

9.2.3 UGC Initiative for faculty Training Programme

The UGC in collaboration with the IKS division of the Ministry of Education is planning to organize a six-day short tern face-to-face training programme for 1000 teachers at different Human Resource Development Centers (HRDC) during July-October 2023. For Gujarat jurisdiction, the schedule is as below:

UGC-HRDC	Jurisdiction	Programme Date
Dr. Chandrashekhar G. Dethe Director, UGC-HRDC RTM Nagpur University, Nagpur	Maharashtra, Gujarat, Goa, Daman & Die, Dadra & Nagar Haveli, Madhya Pradesh, Chhattisgarh	31st July to 5th August, 2023

Contact No.: 9422926170/ 7020034848 Email ID: asc_ngpnu@yahoo.co.in cgdethe@gmail.com		

The Vice Chancellor of the University and Principals of the Colleges are requested to nominate two regular faculty members from their institutions for taking part in the above-mentioned schedule for said training programme and submit the nomination details on UGC IKS Portal at www.ugciks.in.

Preference will be given to faculty (Assistant Professor, Associate Professor) who are currently teaching/planning to teach an introductory course in IKS in the current academic year 2023-24.

9.3 Suggestion for Effective Implementation

1. One practical session on the ancient techniques of memorization.
2. Immersive sessions on Yoga, Meditation, Ayurvedic, Classical Music should be arranged.
3. One session on Ayurveda with reference to self-exploration.
4. HEI to Build a database of authentic books, papers, articles, videos, etc.
5. Under Malviya Mission, a Master trainer programme could be implemented.

9.4 Committee for Promotion of IKS in HEIs

HEI may constitute a committee of experts from its various discipline as representatives to promote, incorporate and coordinate IKS in their discipline or school or department like IITs and IIMS. The number of representatives and term of members in a committee can be decided by HEI.

The committee shall have a senior faculty as a chairperson and other faculty as members who will plan and execute activities in HEI, related to IKS. The committee should plan long term and short-term vision of HEI and seek approvals on the lines of Institute Development Plan. Based on approval from the competent authority, the committee should execute and have periodic review of the plan.

The committee may have a following scope of work and execute activities for promotion of IKS:

1. Organizing expert lectures on subject related to IKS.
2. Organizing workshop for faculties and students on IKS related subject.
3. Conducting certificates courses on Sanskrit and other Indian Languages under schemes of Government.
4. Inviting Eminent persons for lectures to sensitize students, faculty, and staff on Indian Knowledge System.
5. Support faculty in designing new papers on IKS within HEI.
6. Disseminate knowledge and training of IKS among the teachers and students in HEI.
7. Support students and faculties to pursue multidisciplinary research on subject related to IKS.
8. Conduct National and International Conference/ Seminars/ Webinar.

9. Conduct Certificate Programs on Indian Contributions to Science, Technology and Management, Indian Architecture, Indian Art, Global footprints of Indian diaspora, Political Science and Arthashastra, Indian Culture and Tradition and Indian Classical Literature.

9.5 Content on IKS Subjects

It is suggestive to develop and prepare the course content independently by HEIs by keeping the outcomes of the learning into consideration.

A. At least one to two lectures on the fundamental vocabulary of IKS.
B. Faculty must have exposure to the primary text of IKS.
C. A common pedagogy template should be used to design the IKS subject.
D. Access to Primary and Secondary resources should be made available to teacher. These materials may be developed by team of experts and teachers.
E. Data base of books, papers, articles, and videos should be created, and faculty should contribute to the same.
F. Content of IKS available in regional language.
G. Field visits to prominent places such as Temples, Gurukuls, Historic Sites, Art & Craft communities, Ayurvedic Healing Centers, Astronomical Observations, etc. would be organized.

9.5.1 Model Curriculum for Major Discipline Specific IKS

Topics of IKS that are part of Major Discipline Courses
1. Indian Geography: Splendid geographical isolation of Indian's prosperity (Abundant rain, sunshine and warmth, vegetation, animals, and minerals wealth) and Uniqueness of Indian culture
2. Literature of Indian civilization: The important regional versions and foundational text on Mahabharata, Ramayana, Puranas, and Vedas. Foundational text on Indian Philosophies including Jain, and Buddha.
3. The Vedangas and Other Streams of IKS: Six Vedangas- Siksha, Vyakarana, Chandas, Nirukta, Jyotisha and Kalpa Other Streams: Sthapatya, Natyasastra, Dharmasastra, Arthsastra
4. Indian Heath Science: AYUSH (Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy), Meditation, Vedic foundation of Ayurveda, Charaka and Sushruta on the qualities of Vaidya, Panch mahabhuta and Sapta dhatu, importance of digestion
5. Indian Language Science: Word formation in Sanskrit and Indian languages. Some topics on Vyakarana established by Panini
6. Indian Mathematics: Numbers, fractions, geometry, decimal nomenclature of numbers in Vedas. Panini's Astadhyayi, Pingala's Chandahsastra, Aryabhatiya of Aryabhata, Development of combinatorics, Lilavati and Bijaganita of Bhakaracharya, Ganitakaumudi of Narayana Pandit, Magic squares, Trigonometry
7. Indian Astronomy: Ancient records of the observation of the motion of celestial bodies like Sun, Moon, Nakshatra and Graha. Elements of Indian calendar system, important text of

Topics of IKS that are part of Major Discipline Courses
Indian astronomy, basic idea of planetary model of Aryabhata and it's revision by Nilakantha, Astronomical endeavors of Jaisingh, Sankaravarman, Chandrasekhara Samanta.
8. Classical literature in Sanskrit and Other Indian Languages: The nature and purpose of Kavya, Drisya and Sravya Kavyas, important example of classical literature in Sanskrit and other languages
9. Indian Architecture and Town Planning: The importance of Sthapatya, The ancient cities of the Indus-Saraswati region, town planning and drainage system, examples of the significance of Architecture and materials in Ramayana and Mahabharata, examples of high Indian architecture from ancient and medieval periods from different parts of India.
10. Indian Fine Arts: The importance of Gandhrva, Nyaysastra on the nature and purpose of fine arts, basic concepts of Indian music and dance, important texts and examples of Indian music, dance, painting, and Indian musical instruments.
11. Indian Agriculture: The significance of agriculture and irrigation in Ramayana and Mahabharata, Indian agriculture mentioned by Greek historians and other travellers, significance of agriculture and irrigation of the kings of Indian tradition, productivity of Indian agriculture in medieval Thanjavur and eighteenth-century Allahabad and Chengalpattu, etc.
12. Indian Textiles: Text about the formation of cotton and silk fabrics, weaving process, process of Patola fabrics and garments, and varieties of textiles and dyes developed in ancient India. Kachchh textiles, Bandhani, Mashroo, etc.,
13. Indian Metallurgy: Text refers to metallurgy, working on metal, mining and manufacture of Zinc, Iron, Copper, Gold etc., in ancient India, Important specimen of metal workmanship, Ironsmith.
14. Indian polity and economics: The notion of Bharatvarsha as a Chkravarti Kshetra, Chakravarti Kings and their contributions, meaning of Varta, Krishi, Gopalan, and Vanijya.
15. Indian Handicrafts: About famous crafts of India and their making process like Matikaam, leather work, Paper crafts, Coconut coir and their products, bamboo works, etc.

9.5.2 Model Curriculum of IKS under VAC

Semester: 1

Course Credit: 2

Unit	Topics
1	Introduction to IKS 1. Introduction to IKS and Its importance • Introduction & importance of IKS • Various IKS Systems 2. Shastra- Foundational Literature of Bharatvarsha • What is Shastra • Importance of Shastra • Classification of Sashtra 3. Base of IKS Proliferation • Bhartiya education system and its philosophy

	• Domain of education: Gurukul, Pathshala, Vidyalaya, Vishwavidyalaya
2	Contribution of IKS ✓ Mathematics & Astronomy • Numbers and Numeric System • Algebra and Arithmetic • Geometry • Trigonometry • Planetary System • Speed of light • Eclipse ✓ Life Science • Physics • Chemistry • Botany ✓ Metal Technology • Mining Techniques • Types of metals • Tools and techniques for metal smelting with example ✓ Town planning and Temple architecture • Indigenous tools and technologies for town planning and temple architecture • Science of architecture • Lothal, Mohanjo Daro, Dholavira • Angkorvat, Lepakshi Temple, Jagannath Puri Temple, Thanjavur Temple, Modhera and Konark sun Temple, Hampi Temple etc. ✓ Ayurveda • Introduction of Ayurveda • Concept of Tri-Dosh and importance of its balance in the body • Indic Medical Science achievement- tools and technology ✓ Arts & Traditions • History and Origin • Skills enhancement with 64 kala • Science behind our traditions and rituals

The contents to be prepared by the HEIs for the subjects for IKS won't be restricted to above mentioned topics. The HEIs may add more topics as per requirement in particular subjects. Main focus would be to cover the subject relevant ancient IKS contents, as per learning hours and allocated credits. This will facilitate the students to understand our Indian Knowledge System.

Chapter 10
Internationalization of Higher Education

10. Internationalization of Higher Education

Internationalization of higher education promotes sharing of best academic and research practices through interactions between diverse education systems and helps in developing global citizens through the mobility of students, faculties, and scholars. This will help in capacity building of faculty, enable students to compete at a global level, encourage sharing best practices in teaching, learning and research and evolving institutions at a global standard.

10.1 Approaches for Internationalization

The first and most important step will be to integrate the dimensions of the international learning environment within our higher education institutions. This will also help to establish international partnerships for research, easing the process of global enrolment, framing international and intercultural-based curricula, extending international competencies in Indian students, and feasibility of carrying credits across global institutions.

10.1.1 Precautions to be Taken by HEIs

- Any such degree in collaboration with a foreign institute shall be in conformity with the UGC norms and standard.
- The collaboration should be in provision with exit and re-entry pathway.
- Caution should be taken to ensure that the credits earned by the students from Indian/ Foreign institutions shall not be from overlapping course contents/ curriculum.

10.2 Conditions for Collaboration

The following conditions must be abided by the HEIs before going into collaboration with foreign institutions:

1. The Indian HEIs shall obtain approval from the concerned authorities (UGC/State Government) and abide by the norms prescribed by the GoI.
2. Institutions shall be accredited by NAAC or equivalent authorized agencies with a minimum score of 3.01 on a 4 points scale.
3. The Institutions shall have to enter into a written MoU.
4. The Indian HEIs shall ensure that the offered programme of study shall not hinder the national security and territorial integrity of India.
5. The collaborating Indian HEIs shall have an office of International Affairs.
6. The programme offered under above-mentioned regulations shall not be allowed in online and ODL mode.
7. No franchise model/ study centre shall be allowed under such regulations.
8. The monitoring of such collaboration shall be done through mandatory public disclosure.

10.3 Provision for Collaboration

Collaboration Types	Scope and Benefits
1. **Twinning Programmes**	• An arrangement whereby the students enrolled with an Indian HEIs may undertake the programmes of study partly in India and partly in foreign HEI • The degree offered shall be awarded by the Indian HEIs only • Credits earned by the students from the foreign HEIs shall not exceed 30% of the total credits of the programme • There will be equality of weightage of the credits earned by the students either from Indian or Foreign Institutions
2. **Joint Degree Programmes**	• Under this programme, the curriculum shall be designed jointly by the collaborating Indian and Foreign HEIs • A single degree certificate shall be awarded jointly by both institution after completion of the courses • The students must earn a minimum 30% of total credits from each of Indian and Foreign Institutions
3. **Dual Degree Programmes**	• A programme that is jointly designed and offered by the collaborating institutions in the same discipline and in the same level of courses • The degree shall be conferred by both collaborating institutes separately post completion of the courses • Prospective students shall apply to and to be admitted both separately to both institutions • The students must earn at least 30% of total credits from Indian institutions

Chapter 11
Annexures

11. Annexures

11.1 Annexure 1: Template for IDP

General Instructions

1. Objectives
2. Mission
3. Goals, Priorities, and Commitments of the Institution
4. Time-bound targets
5. Capacity (human and financial) and organizational gaps and steps to bridge these gaps
6. Develop annual activity plans
7. The IDP will be prepared for five years and contain a description of measures for sustainably beyond this period.

1. Vision & Mission

2. Institutional Profile

A. Institutional Basic Information:

• Institutional Identity • Academic Information • Establishment Details • Accreditation Details • Faculty Status (Regular/On-Contract Faculty)	• Facilities (Lab/Library/Hostel) • Research and Development • Sports and Culture • Financial Reports • Course and Examination Details • Student's Profile

B. Need Assessment:

• Curriculum Excellence • Pedagogical Excellence • Academic Administration • Examination Reforms • Infrastructural Development &Maintenance • Collaboration / Partnering with Knowledge and skills hubs • Effective institutional governance • Stakeholders Involvement	• Manpower Management • Legal Compliances • Creating Institutional Brand Image • Research &Development • Social outreach programmes • Monitoring and Evaluation • Employment • Supporting Students from Disadvantaged Backgrounds

3. The Role of the University in Contemporaneity

4. Future Perspective

5. General Goals of the University

6. Global Goals of the University

7. Institutional Pedagogical Approach:

- Indivisibility

- Interdisciplinarity
- Formation Integrated to Social Reality
- Theory Practice Articulation

8. **Serving People with Special Educational Needs**
9. **Faculty Details**
10. **Technical-Administrative Staff Details**
11. **Excellency of Students**
12. **Strategic Programmes/ Goals**
13. **Development Objectives:**

• Curriculum Excellence Objectives • Pedagogical Excellence • Academic Administration • Examination Reforms • Infrastructural Development &Maintenance • Partnering with Knowledge Hubs • Automation and Information Technology • Stakeholders Involvement • Research & Development	• Social Outreach Programmes • Monitoring and Evaluation • Employment • Supporting Students from Disadvantaged Backgrounds • Others • Manpower Management • Legal Compliances • Creating Institutional Brand Image/ Ranking

14. **Metrics & Targets**
15. **Institutional Project Budget**
16. **Gap Analysis / SWOT Analysis**
17. **Financial and Budgetary Sustainability**
18. **Documents on Stake Holder's Consultation**
19. **Campus Development**
20. **Green Initiatives**
21. **Policy for Campus Level ICT Infrastructure**

11.2 Annexure 2: Format of Letter of Intent for Skills Knowledge Partner (SKP)

To,
The Principal/ Dean/ Head of Department,
(College – Institute Name)
Address –

Subject – Letter of Intent to be a Skill Knowledge Provider.

Dear Sir/ Madam,

1. _____ (Name Of Organization) is desirous to become a Skill Knowledge Partner of _____ (Institute/University) and providing OJT/internship/Apprenticeship opportunity to students of _____.

2. We would be providing OJT/internship/Apprenticeship opportunity to up to _____ (number of students) for the _____course/s.

3. We understand that the course is commencing on _____ and will be for the duration of _____year (s) divided into _____semesters.

4. As an organization, we shall provide opportunity to the students towards achieving the desirous learning outcomes. We understand that the minimum number of hours the student needs to spend on the learning outcome would be _____ (as per the credit assigned for internship) hours per semester.
5. We shall share the Completion letter with the names of the student and course, once the batch is finalized.

Your Sincerely,
ABC Company
Address
Contact person Name
Designation
Phone number

11.3 Annexure 3: Format of Letter of Intent to the Student

To,

(Name of the Student)
(Name of the Institution)
(Residential Address)
(Mobile Number)

Dear (Name of the student)

It gives me great pleasure to inform you that you have been selected by M/s..... (Name of the company) as a..... (Designation) to be located at..... (Location of OJT/internship/Apprenticeship). You will be paid a stipend of Rs. ..... Per month (.....In words).

Yours sincerely,
(Signature and name of authorised signatory)
(Seal of the company)

Student declaration and acceptance of offer:

I have read the terms and conditions and information regarding my OJT/internship/ Apprenticeship offer letter. I affirm that I accept the offer and will join the above-mentioned company on said date.

Signature: .....
Date: .....

11.4 Annexure 4: OJT/ Internship/ Apprenticeship completion certificate for candidates

Company letter head

Issued on: ..... ID No: .....

OJT/internship/ Apprenticeship completion certificate

This is to certify that Ms. / Mr..... D/o, W/o, S/o..... has successfully completed on the job /internship/Apprenticeship training course with grade _____ for ..... (Course name) conducted by..... (Company name) facilitated by..... (Institution name) from..... (DD/MM/YY) to..... (DD/MM/YY) at..... (Name of company, address).

Certified by:

(Company name)

Sign and seal

(Designation)

Grading for performance are as follows:

Grade O- Outstanding

Grade A^+- Excellent

Grade A – Very good

Grade B^+ – Good

11.5 Annexure 5: Sample copy of Semester Grade Sheet

University Logo

Name of the University

University Logo

GRADE SHEET

Name of the Institute:
Address of the Institute:
Name of the Programme:

Batch: 2023-24	Year of Completion: 2024-25
Enrolment No.:	Roll No.:
Name of the Students:	ABC No.:
Father's/Husband's Name:	Mother's Name:

Course Code	Course Title	Credit	Grade	Grade Point	Credit Points (Credit X Grade Point)
BSC C003	Botany	8	A	8	64
	Course 2	6	B	6	36
	Course 3	4	C	5	20
Total		18			120
SGPA		120/18			6.67

Semester	I/II/III/IV/V/VI/VII/VIII
Total Credits	
Obtained Credits	
Additional Credits	
SGPA	
Attempt	
Result	

Date of Result: Asst. Registrar/Examination Controller

11.6 Annexure 6: Sample copy of Final Grade Sheet

University Logo

Name of the University

University Logo

GRADE SHEET

Name of the Institute:
Address of the Institute:
Name of the Programme:

Batch: 2023-24	Year of Completion: 2026-27
Enrolment No.:	Roll No.:
Name of the Students:	ABC No.:
Father's/Husband's Name:	Mother's Name:

Course Code	Course Title	Credit	Grade	Grade Point	Credit Points (Credit X Grade Point)
BSC C003	Botany	8	A	8	64
	Course 2	6	B	6	36
	Course 3	4	C	5	20
Total		18			120
SGPA		120/18			6.67

SEMESTER WISE RESULT								
Semester	I	II	III	IV	V	VI	VII	VIII
Total Credits								
Obtained Credits								
Additional Credits								
SGPA								
Attempt								
Result								

Final Result			
Total Credits	CGPA	Equivalent Percentage	Division

Date of Result:

Asst. Registrar/Examination Controller

Knowledge Consortium of Gujarat

Department of Education, Government of Gujarat

No./KCG/NEP/2023-24/1368 Date: 29/09/2023

The Vice Chancellor,
All Universities,
Gujarat State

Subject: Regarding Clarification for Examinations allotted to Universities and Colleges

Dear Sir/Ma'am,

After the emergence of National Education Policy 2020, the deliberations have increased to improve. Along with the Education Department, Government of Gujarat, the Universities, Colleges and other Higher Education Institutions are also focusing on enhancing their efforts and trying their best for implementing the policy.

Education Department, Government of Gujarat has also released a handbook of **Standard Operating Procedure (SOP) on 26/07/203 for all HEIs of Gujarat state for effective implementation of NEP-2020,** approved by the Hon'ble Education Minister of Gujarat State.

The Chapter 7 **"Evaluation Reforms"** of SOP (attached herewith in enclosure) clearly states the work of universities and colleges for assessment and conducting of examination. It is clearly stated in the SOP that examination for 50% of the total marks will be conducted by colleges (Internal Evaluation) and the examination for remaining 50% of total marks will be conducted by universities (External Evaluation).

The universities cannot transfer any of its allotted examination work even of one/two credit courses to the colleges or vice-versa. Moreover, the clarity for this Evaluation System will be broadly explained in the Statues and by laws. I kindly request you to strictly follow the SOP and the matters given in it.

You are also requested to ensure proper dissemination of this circular among all the stakeholders of the University.

With warm regards,

Prof. A U Patel 29-9-23
Advisor, KCG &
Former Vice Chancellor
Gujarat University

Copy respectfully forwarded to,

1. PA to Principal Secretary, Education, New Sachivalay, Gandhinagar
2. PA to Director, (Higher Education), Dr. Jivraj Mehta Bhavan, Gandhinagar
3. PA to Commissioner, (Technical Education), Karmayogi Bhavan, Gandhinagar
4. Registrar, All Universities, Gujarat State

Enclosure,

1. Chapter 7 **"Evaluation Reforms"** of SOP

Chapter 7
Evaluation Reforms

7 Evaluation Reforms

7.1 Current Examination System

The current examination system is usually based on the question paper which tests only memory recall as a skill. This pattern has many drawbacks resulting in stress and anxiety for students, increase in manual workload, single nature of assessment, compromise in quality of question paper, inaccuracy in marking questions and so on.

7.2 New Evaluation System

To overcome the limitations of an old evaluation system, there is a need for reforms that ensure credibility and the outcome of the assessment system. There is a need to have more horizontal assessment modes in all forms of education (Regular, Online and ODL) rather than one single vertical mode that decides the fate of students. It leads to the overall development of students in terms of critical thinking, problem-solving ability, right application of knowledge, and maintaining ethics.

The evaluation process should be formulated to make a systematic evaluation of students' progress based on UGC guidelines. The evaluation must be designed with learner attributes in mind. These attributes have clear linkages to Programme Education Objectives and Outcomes. The evaluation consists of the following two components:

1. Continuous and Comprehensive Evaluation (CCE)- Formative
2. Semester End Evaluation (SEE)- Summative

CCE carries 50% of the total marks allotted to a subject and the other 50% being assigned to the SEE.

In each course, every credit carries 25 marks, of which 50% marks is assigned for CCE and rest 50% marks for SEE. The 50% marks assigned to the CCE is distributed between the continuous classroom evaluation and mid-term evaluation. The pattern may be as follow:

Sr. No.	Evaluation	4 credit subjects (Marks)	2 credit subjects (Marks)
1	CCE (50%)		
	Classroom & Mid-Term Evaluation	50	25
2	SEE (50%)	50	25
	Total	**100**	**50**

7.2.1 Continuous and Comprehensive Evaluation (CCE)

Subject–wise CCE will be undertaken by the concerned faculty member. The mode of evaluation will be decided by the faculty member concerned with the subject. Normally CCE consists of class participation, case analysis and presentation, assignment, tutorials, slip tests (announced/ surprised), quizzes, attendance etc. or any combination of these. The students are expected to submit their answer scripts/ reports of internal evaluation within the stipulated time. Failure to do so may result in the script not being valued. Another part of CCE consists of mid-term written evaluation, which is compulsory for all students. It can be done in a scheduled manner. The duration of the mid-term evaluation shall be one hour.

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7.2.2 Semester End Evaluation (SEE)

The SEE carries 50% of the marks (50 Marks) assigned to a course. SEE shall be of 2 hours for 4 credit course and 1 hour in case of 2 credit courses. If required, HEIs may take exams of 100 marks for 4 credits and 50 marks for 2 credits subject each in CCE and SEE and assign pro-rata basis marks in the final marks sheet for calculation of grade sheet. In this case evaluation would be for $2^{1/2}$ hrs. and 2 hrs. respectively. The controller of the examination will conduct these examinations. Paper setting and evaluation will be done by the external examiners to an extent of 50% of the evaluation process. This examination shall be conducted as per a schedule which shall be notified in advance.
Th backlog exam will be conducted twice a year just after the result declared of the semester evaluation. Students shall have a second chance to clear their backlog and avoid the burden to carry forward the backlog with the next semester exam.

Appearance in all the evaluations is mandatory and no exemption can be granted except in the following case:

1. In case of inability to attend the exam due to reasons considered genuine by the controller of examination in consultation with the Director/Board.
2. In case of medical emergency, a certificate from the registered medical practitioner must be produced before the commencement of exams. The evaluation board will then take final decision on the recommendation for exemption.

7.3 Eligibility Criteria to appear in SEE

To be able to appear for the SEE, a student must comply with the following conditions:

1. Should have at least 75% of attendance in all the courses put together
2. Should have at least 70% of attendance in each course/subject
3. Should not have any disciplinary proceedings pending against him/her
4. Should have no pending due

7.4 Continuum of Evaluation

Evaluation must be continuous which may include both formative and summative components in a timely manner for continuous feedback as follow:

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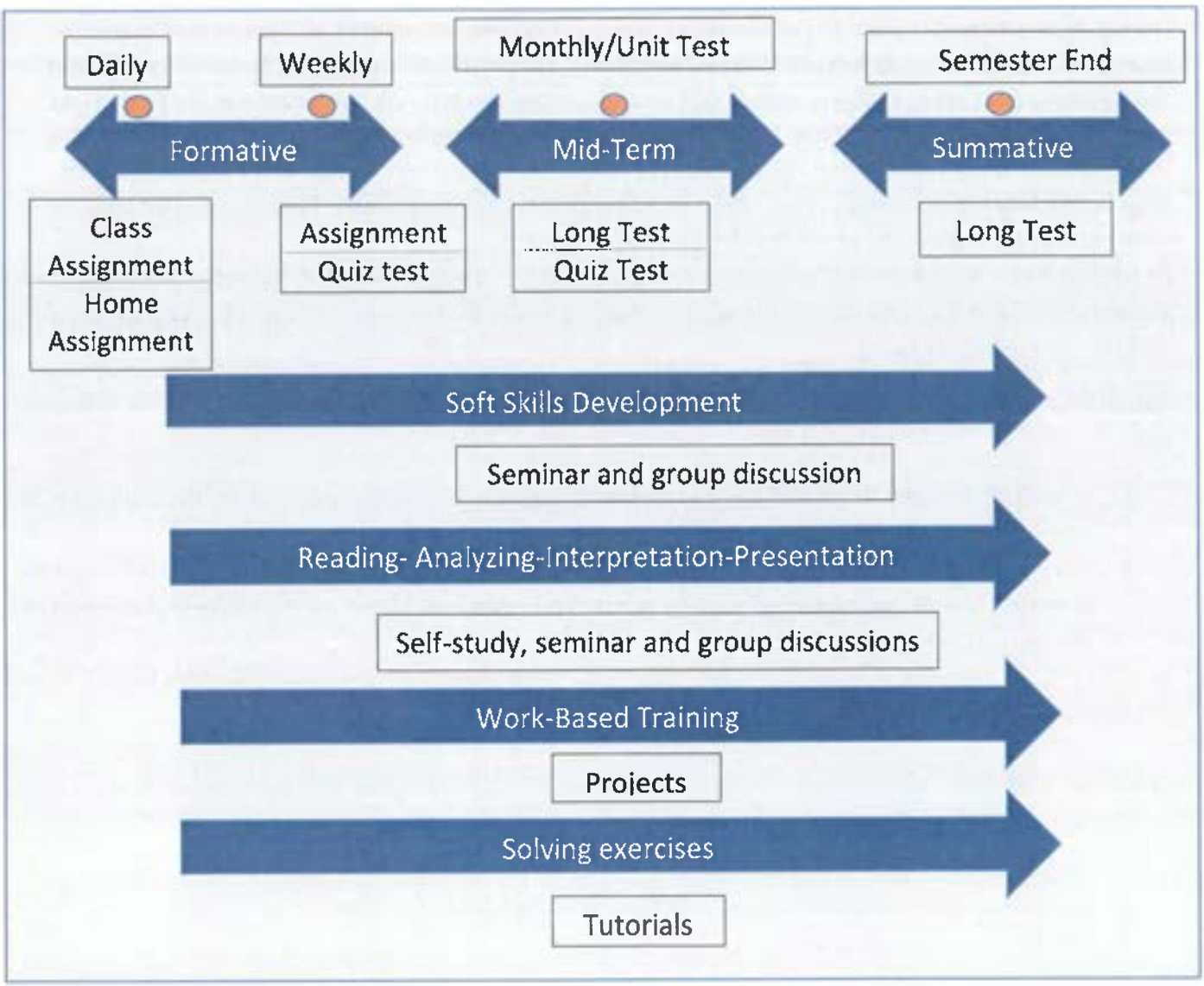

7.5 Assessment Band

NCrF proposes that the NCrF levels be equated with the assessment/ major assessment stage which will be a mandatory stage for a student/learner to clear. Between two mandatory stages, there may be 2-4 levels depending on whether it falls in the purview of school or higher education. The clubbing of these levels has been referred to as Assessment bands. The Credits earned for the two courses/ qualifications/ programmes or through experiential learning (either Regular/ Online/ ODL mode of education) may be accumulated and added if earned in the same assessment band, subject to the guidelines of respective regulators. The regulator may also consider setting up broad learning outcomes for each level and band so defined.

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Accordingly, the assessment bands so formulated are indicated below:

Academic Band	Academic Grade/Level	NCrF Credit Level	Min. Credit earned/Year	Assessment Band
2 Years-Secondary	Class-IX	2.5	40	Assessment Band- III
	Class-X	3.0	40	
2 years-Senior secondary	Class-XI	3.5	40	Assessment Band- IV
	Class-XII	4.0	40	
4 Year UG Degree with Honours/ Honours with Research	UG-1st Year	4.5	40	Assessment Band- V & VI
	UG- 2nd Year	5.0	40	
	UG- 3rd Year	5.5	40	
	4th Year UG with Honours/ Honours with Research PG- 1st Year	6.0	40	
PG Degree (1/2 Years)	PG 2nd Year /1- year PG/1st Year (Engg.)	6.5	40	Assessment Band-VII
	PG 2nd Year (Engg.)	7.0	40	
Doctoral Degree	Ph.D.	8.0	40	Assessment Band-VIII

7.6 Mode of Evaluation

A wide range of modes of evaluation for evaluating students is available for the teachers/ institutions to use. A suitable compendium of such a mode needs to be carefully chosen for a particular program depending on its nature, objectives, and available resources. The mode of evaluation can be as below:

Written Mode	Oral Mode	Practical Mode	Integrated Mode
1. Semester Exam	1. Viva/Oral exam	1. Lab work	1. Paper presentation/Seminar
2. Class Test	2. Group Discussion	2. Computer simulation/virtual labs	2. Field Assignment
3. Open book exam/test	3. Role Play	3. Craft work	3. Poster presentation
4. Open note exam/test	4. Authentic Problem Solving	4. Co-curricular work	
5. Self-test/ Online test	5. Quiz		
6. Essay/Article writing	6. Open Book Reading		
7. Quizzes/Objective test	7. Interview		
8. Class assignment			
9. Home assignment			
10. Reports Writing			
11. Research/Dissertation			
12. Case Studies			

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Nature and Objectives of various types of evaluation:

Written Mode		
Evaluation Type	**Nature**	**Objectives**
Semester Exam	Traditionally essay type	For depth and planned preparation
Class test	Traditionally essay type	Fixed date forces students to learn
Open book test	Allowed choice of reference book	Measures what students can do with resources, less stress on memory
Open note test	To get used to the system	Encourage good note taking
Self-test	For subjective and objective items	Mastery learning occurs with proper feedback
Article/essay writing	Individual long written assignment	Individual expression and creativity
Quizzes/Objective test	Short duration structured test	Excellent validity as greater syllabus coverage
Class assignment	With defined time	Student's performance to make decision
Home assignment	With undefined time	Reinforce learning and facilitate mastery of specific skills
Reports Writing	On activities performed or event observed	Develop a key transferable skill
Research/Dissertation	Detailed research-based report	To judge creativity and research skills
Case Studies	Analyse a given case (real or fictional)	To assess thinking, value, and attitude

Oral Mode		
Evaluation Type	**Nature**	**Objectives**
Viva/Oral exam	Individually or in small group	Practical experience towards job interview situation
Group discussion	Small group of 2-5 members work on a joint task	Encourage teamwork
Role Play	Small group of 2-5 members work on a joint task	Develop personality
Authenticate problem solving	Small group of 2-5 members work on a joint task	Communication of ideas
Quiz	Small group of 2-5 members work on a joint task	Assess memory power
Interview	Individually	Judge the personal confidence level

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Practical Mode		
Evaluation Type	Nature	Objectives
Lab work	Component of working with one's hand	Keep the students on the task
Computer simulation/virtual labs	Component of working with one's hand	To understand the practical exposure
Craft work	Component of working with one's hand	Encourage application of concepts learnt
Co-curricular work	Component of working with one's hand	For immediate feedback

Integrated Mode		
Evaluation Type	Nature	Objectives
Paper presentation/Seminar	Group or individual work	Learn from others presentation
Field Assignment	Field visit with report	Develop observation and recording skills
Poster presentation	Group or individual work	Develop research, creativity, and discussion skills

7.7 Models of evaluation

Based on the types of evaluation, various models of evaluation implementation are suggested for theory, practical, self-study and work-based learning. The focus of these models is to encourage the students to improve on skills and performance.

Model for Theory Courses	
CEE- 50% (50)	SEE- 50% (50)
Exam Pattern	**Marks**
Class Test (best 2 out of 3)	15
Quiz (Best 3 out of 4)	15
Active Learning	05
Home Assignment	05
Class Assignment	05
Attendance	05
Continuous and Comprehensive Evaluation	**50**
Semester-End Evaluation	**50**

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Model for Practical Courses	
CEE- 50% (50)	SEE- 50% (50)
Exam Pattern	**Marks**
Lab work assessment (best 4 out of 5)	20
Viva voce/Lab quiz (best 4 out of 5)	20
Attendance	10
Continuous and Comprehensive Evaluation	**50**
Semester-End Evaluation	**50**

Model for Project/Self-study course	
CEE- 50% (50)	SEE- 50% (50)
Exam Pattern	**Marks**
Project Evaluation (Best 3 out of 5)	30
Participation in discussion	10
Attendance	10
Continuous and Comprehensive Evaluation	**50**
Semester-End Evaluation	**50**

Model for work experience course	
CEE- 50% (50)	SEE- 50% (50)
Exam Pattern	**Marks**
Project Evaluation (Best 3 out of 5)	30
Participation in discussion	10
Attendance	10
Continuous and Comprehensive Evaluation	**50**
Semester-End Evaluation	**50**

Evaluation Pattern for Four Years Course: (Total Semesters: 08 ; Total Credits: 176)

Semester: I

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM200-1C	Major Course- I	45	30	4	50	50	100
PHM201-1C	Major-Course- II	45	30	4	50	50	100
PHE300-1C	Minor Course- I	45	30	4	50	50	100
MDC201-1C	Multidisciplinary Course- I	45	30	4	50	50	100
AEC201-1C	Ability Enhancement Course- I	30	00	2	25	25	50

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SEC201-1C	Skill Enhancement Course- I	15	30	2	25	25	50
IKS201-1C	Indian Knowledge System- I	15	30	2	25	25	50
	Total	**240**	**180**	**22**	**275**	**275**	**550**

Semester- II

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM203-1C	Major Course- III	45	30	4	50	50	100
PHM204-1C	Major-Course- IV	45	30	4	50	50	100
PHE301-1C	Minor Course- II	45	30	4	50	50	100
MDC202-1C	Multidisciplinary Course- II	45	30	4	50	50	100
AEC202-1C	Ability Enhancement Course- II	30	00	2	25	25	50
SEC202-1C	Skill Enhancement Course- II	15	30	2	25	25	50
VAC201-1C	Value Added Course- I (NSS)	15	30	2	25	25	50
	Total	**240**	**180**	**22**	**275**	**275**	**550**

Semester III

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM205-2C	Major Course- V	45	30	4	50	50	100
PHM206-2C	Major-Course- VI	45	30	4	50	50	100
PHM207-2C	Major Course- VII	45	30	4	50	50	100

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MDC203-2C	Multidisciplinary Course- III	45	30	4	50	50	100
AEC203-2C	Ability Enhancement Course- III	30	00	2	25	25	50
SEC203-2C	Skill Enhancement Course- III	15	30	2	25	25	50
IKS202-2C	Indian Knowledge System- II	30	00	2	25	25	50
	Total	**255**	**150**	**22**	**275**	**275**	**550**

Semester IV

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM208-2C	Major Course- VIII	45	30	4	50	50	100
PHM209-2C	Major-Course- IX	45	30	4	50	50	100
PHM210-2C	Major Course- X	45	30	4	50	50	100
PHE303-2C	Minor Course- III	45	30	4	50	50	100
AEC204-2C	Ability Enhancement Course- IV	15	30	2	25	25	50
SEC204-2C	Skill Enhancement Course- IV	15	30	2	25	25	50
VAC202-2C	Value Added Course- II (NCC)	15	30	2	25	25	50
	Total	**225**	**210**	**22**	**275**	**275**	**550**

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Semester V

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM301-3C	Major Course- XI	45	30	4	50	50	100
PHM302-3C	Major-Course- XII	45	30	4	50	50	100
PHM303-3C	Major Course- XIII	45	30	4	50	50	100
PHE304-3C	Minor Course- IV	45	30	4	50	50	100
PHE305-3C	Minor Course- V	45	30	4	50	50	100
SEC301-3C	Skill Enhancement Course- V	15	30	2	25	25	50
	Total	**240**	**180**	**22**	**275**	**275**	**550**

Semester VI

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM304-3C	Major Course- XIV	45	30	4	50	50	100
PHM305-3C	Major-Course- XV	45	30	4	50	50	100
PHM306-3C	Major Course- XVI	45	30	4	50	50	100
PHE306-3C	Minor Course- VI	45	30	4	50	50	100
AEC205-3C	Ability Enhancement Course- V	15	30	2	25	25	50
	Internship	00	120	4	50	50	100
	Total	**195**	**270**	**22**	**275**	**275**	**550**

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Semester VII: Honours Degree

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM401-4C	Major Course- XVII	45	30	4	50	50	100
PHM402-4C	Major-Course- XVIII	45	30	4	50	50	100
PHM403-4C	Major Course- XIX	45	30	4	50	50	100
CHE401-4C	Minor Course- VII	45	30	4	50	50	100
	On-the-Job Training	00	180	6	75	75	150
	Total	**180**	**300**	**22**	**275**	**275**	**550**

Semester VIII: Honours Degree

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM404-4C	Major Course- XX	45	30	4	50	50	100
PHM405-4C	Major-Course- XXI	45	30	4	50	50	100
PHM406-4C	Major Course- XXII	45	30	4	50	50	100
CHE402-4C	Minor Course- VIII	45	30	4	50	50	100
	On-the-Job Training	00	180	6	75	75	150
	Total	**180**	**300**	**22**	**275**	**275**	**550**

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Semester VII: Honours with Research Degree

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory/ Report writing	Practical/ Presentation		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM401-4C	Major Course- XX	45	30	4	50	50	100
PHM402-4C	Major-Course- XXI	45	30	4	50	50	100
PHM403-4C	Major Course- XXII	45	30	4	50	50	100
CHE401-4C	Minor Course- VIII	45	30	4	50	50	100
	Research Project	150	30	6	75	75	150
	Total	**330**	**150**	**22**	**275**	**275**	**550**

Semester VIII: Honours with Research Degree

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory/ Report writing	Practical/ Presentation		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM404-4C	Major Course- XX	45	30	4	50	50	100
PHM405-4C	Major-Course- XXI	45	30	4	50	50	100
PHM406-4C	Major Course- XXII	45	30	4	50	50	100
CHE402-4C	Minor Course- VIII	45	30	4	50	50	100
	Research Project	150	30	6	75	75	150
	Total	**330**	**150**	**22**	**275**	**275**	**550**

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Model of evaluation for 100 marks (4 Credits paper)

Continuous and Comprehensive Evaluation (CCE)- Formative- 50 Marks				Semester End Evaluation (SEE)- Summative- 50 Marks
Written	Oral	Practical	Integrated	Final Test
1. Weekly/Unit Test 2. Open book/note test 3. Online test 4. Essay/Article writing 5. Objective test 6. Class/Home assignment 7. Reports Writing 8. Research/Dissertation 9. Case Studies 10. Project Writing 11. Journal Writing 12. Multiple Choice Questions 13. Seen/Open Question 14. Take Home 15. Assignment Writing	1. Viva/Oral exam 2. Group Discussion 3. Role Play 4. Authentic Problem Solving 5. Quiz 6. Interview 7. Open book reading 8. Inter Forum Debate 9. Speech 10. Reading Test	1. Lab work 2. Computer simulation/virtual labs 3. Craft work 4. Co-curricular work 5. Activities and brainstorming games	1. Paper presentation/ Seminar 2. Field Assignment 3. Poster presentation 4. Self and Peer Evaluation	1. Writing and Memory skill test
15	10	15	10	50

Model of evaluation for 50 marks (2 Credits paper)

Continuous and Comprehensive Evaluation (CCE)- Formative- 25 Marks				Semester End Evaluation (SEE)- Summative- 25 Marks
Written	Oral	Practical	Integrated	Final Test
1. Weekly/Unit Test 2. Open book/note test 3. Online test 4. Essay/Article writing 5. Objective test 6. Class/Home assignment 7. Reports Writing	1. Viva/Oral exam 2. Group Discussion 3. Role Play 4. Authentic Problem Solving 5. Quiz 6. Interview	1. Lab work 2. Computer simulation/virtual labs 3. Craft work 4. Co-curricular work	1. Paper presentation/ Seminar 2. Field Assignment 3. Poster presentation	1. Writing and Memory skill test

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8. Research/Dissertation 9. Case Studies 10. Project Writing 11. Journal Writing 12. Multiple Choice Questions 13. Seen/Open Question 14. Take Home 15. Assignment Writing	7. Open book reading 8. Inter Forum Debate 9. Speech 10. Reading Test	5. Activities and brainstorming games	4. Self and Peer Evaluation	
10	5	5	5	25

Note:

1. **HEIs may change the marks weightage in continuous and comprehensive evaluation (CCE) as per course requirements.**
2. **If required, HEIs may take exams of 100 marks for 4 credits and 50 marks for 2 credits subject each in CCE and SEE and assign pro-rata basis marks in the final marks sheet for calculation of grade sheet.**
3. **HEIs may arrange practical and viva evaluation either by internal faculty or along with external evaluator. Marks of practical and viva will be considered under CCE.**
4. **SEE written evaluation will be done mandatory in presence of external evaluator.**
5. **HEIs should choose different types of modes of evaluation in each category of CCE in multiplication of 5 marks. i.e., 1 type in 5 marks, 2 types in 10 marks and 3 types of modes of evaluation in 15 marks of evaluation. For example, Institution may adopt assignment test and weekly test in written mode of CCE evaluation for 10 marks.**

7.8 Question Paper Setting

Following procedure may be adopted to develop a question paper (Regular/ODL mode) of a particular course:

- Specifying objective/learning outcome to be tested
- Decide the question format
- Pool of question from the expert
- Review of questions
- Pilot testing
- Assessment of difficulty of the questions
- Final selection of question from the pool of questions

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7.9 Malpractices and Punishment

All students are warned not to resort to any kind of malpractice during the evaluation. The examination department/board may take appropriate actions against the concerned student(s) who is/are found to indulge in any kind of malpractices activities during the evaluation process.

7.10 On-Demand Evaluation

On-Demand Examination may provide flexibility to students, especially those enrolled under open and distance education modes. This system works on the principle of flexibility where assessment can take place when the learner considers themselves ready to appear. Thus, readiness depends on the learner and not on the institutions. An advantage of this system may result in a reduced number of failures in the examination.

7.11 Letter Grades and Grade Points

The relative grading system provides the relative performance of a student to a group/class wherein the student is ranked in a group/class on the basis of relative level of achievements.

HEIs may also mention the marks obtained by the students in each course and a weightage average of marks on the Grade sheet for the benefits of the students.

Letter Grade	Grade Point	Marks (In %)
O (Outstanding)	10	96.0-100
A+ (Excellent)	9	86.0-95.9
A (Very Good)	8	76.0-85.9
B+ (Good)	7	66.0-75.9
B (Above Average)	6	56.0-65.9
C (Average)	5	46.0-55.9
P (Pass)	4	36.0-45.9
F (Fail)	0	Below 36.0
Ab (Absent)	0	Absent

Minimum passing marks for each pattern of evaluation (formative and summative):

Maximum Marks	Minimum Passing Marks
25	9
50	18
100	36

7.11.1 Semester Grade Point Average (SGPA)

The SGPA is based on the grade of the current term of the programme of study.

Computation of SGPA

SGPA is computed from the grades as a measure of the student's performance in each semester. It is the ratio of the sum of the product of the number of credits with the grade points and the sum of the number of credits. i.e.

SGPA (Si) = $\sum$ (Ci X Gi) / $\sum$Ci

Where Si is the SGPA for i^{th} course, Ci is the number of credits of the i^{th} course and Gi is the grade point scored by the student in the i^{th} course.

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Example for computation of SGPA:

Semester	Course	Credit	Letter Grade	Grade Point	Credit Point
1	Course 1	3	O	10	3X10=30
1	Course 2	4	A	8	4X8=32
1	Course 3	3	A+	9	3X9=27
1	Course 4	4	B	6	4X6=24
1	Course 5	3	B+	7	3X7=21
		17			**134**
SGPA					**134/17=7.88**

7.11.2 Cumulative Grade Point Average (CGPA)

The CGPA is based on the grades in all the courses taken after joining the programme of study.

Computation of CGPA

The CGPA is the ratio of the sum of the products of total credits scored in a particular semester with the SGPA scored by the student in that semester and the sum of the total number of credits of each semester. i.e.

$CGPA = \sum (Ci \times Si) / \sum Ci$

Where Si is the SGPA of the i^{th} semester and Ci is the total number of credits in that semester.

Example for computation of CGPA:

Semester	Credits	SGPA	Sum of Credits and SGPA
1	18	8.2	18X8.2= 147.6
2	18	7.9	18X7.9= 142.2
3	20	8.3	20X8.3= 166.0
4	22	8.6	22X8.6= 189.2
5	18	8.1	18X8.1= 145.8
6	22	8.5	22X8.5= 187.0
	118		**977.8**
CGPA			977.8/118= 8.29

The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts (Grade Sheet). The transcript may issue for each semester based on SGPA and CGPA and consolidated transcript indicating the performance in each semester.

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7.12 Result Declaration

Declaration of results is a crucial element of the educational system of a higher educational institution on which rests its credibility and reputation. Timeliness is essential in case of both internal and external components of the evaluation. The following table shows a suggested timeline for CCE and SEE:

Continuous and Comprehensive Evaluation	
Daily Task	Before the next week
Weekly Task	Before the next task
Unit Test	Within one week
Semester End Evaluation	
Internal Components	7-10 working days
External Components	20-30 working days

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Chapter 7
Evaluation Reforms

7 Evaluation Reforms

7.1 Current Examination System

The current examination system is usually based on the question paper which tests only memory recall as a skill. This pattern has many drawbacks resulting in stress and anxiety for students, increase in manual workload, single nature of assessment, compromise in quality of question paper, inaccuracy in marking questions and so on.

7.2 New Evaluation System

To overcome the limitations of an old evaluation system, there is a need for reforms that ensure credibility and the outcome of the assessment system. There is a need to have more horizontal assessment modes in all forms of education (Regular, Online and ODL) rather than one single vertical mode that decides the fate of students. It leads to the overall development of students in terms of critical thinking, problem-solving ability, right application of knowledge, and maintaining ethics.

The evaluation process should be formulated to make a systematic evaluation of students' progress based on UGC guidelines. The evaluation must be designed with learner attributes in mind. These attributes have clear linkages to Programme Education Objectives and Outcomes. The evaluation consists of the following two components:

1. Continuous and Comprehensive Evaluation (CCE)- Formative
2. Semester End Evaluation (SEE)- Summative

CCE carries 50% of the total marks allotted to a subject and the other 50% being assigned to the SEE.

In each course, every credit carries 25 marks, of which 50% marks is assigned for CCE and rest 50% marks for SEE. The 50% marks assigned to the CCE is distributed between the continuous classroom evaluation and mid-term evaluation. The pattern may be as follow:

Sr. No.	Evaluation	4 credit subjects (Marks)	2 credit subjects (Marks)
1	CCE (50%)		
	Classroom & Mid-Term Evaluation	50	25
2	SEE (50%)	50	25
	Total	**100**	**50**

7.2.1 Continuous and Comprehensive Evaluation (CCE)

Subject–wise CCE will be undertaken by the concerned faculty member. The mode of evaluation will be decided by the faculty member concerned with the subject. Normally CCE consists of class participation, case analysis and presentation, assignment, tutorials, slip tests (announced/ surprised), quizzes, attendance etc. or any combination of these. The students are expected to submit their answer scripts/ reports of internal evaluation within the stipulated time. Failure to do so may result in the script not being valued. Another part of CCE consists of mid-term written evaluation, which is compulsory for all students. It can be done in a scheduled manner. The duration of the mid-term evaluation shall be one hour.

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7.2.2 Semester End Evaluation (SEE)

The SEE carries 50% of the marks (50 Marks) assigned to a course. SEE shall be of 2 hours for 4 credit course and 1 hour in case of 2 credit courses. If required, HEIs may take exams of 100 marks for 4 credits and 50 marks for 2 credits subject each in CCE and SEE and assign pro-rata basis marks in the final marks sheet for calculation of grade sheet. In this case evaluation would be for $2^{1/2}$ hrs. and 2 hrs. respectively. The controller of the examination will conduct these examinations. Paper setting and evaluation will be done by the external examiners to an extent of 50% of the evaluation process. This examination shall be conducted as per a schedule which shall be notified in advance.
Th backlog exam will be conducted twice a year just after the result declared of the semester evaluation. Students shall have a second chance to clear their backlog and avoid the burden to carry forward the backlog with the next semester exam.

Appearance in all the evaluations is mandatory and no exemption can be granted except in the following case:

1. In case of inability to attend the exam due to reasons considered genuine by the controller of examination in consultation with the Director/Board.
2. In case of medical emergency, a certificate from the registered medical practitioner must be produced before the commencement of exams. The evaluation board will then take final decision on the recommendation for exemption.

7.3 Eligibility Criteria to appear in SEE

To be able to appear for the SEE, a student must comply with the following conditions:

1. Should have at least 75% of attendance in all the courses put together
2. Should have at least 70% of attendance in each course/subject
3. Should not have any disciplinary proceedings pending against him/her
4. Should have no pending due

7.4 Continuum of Evaluation

Evaluation must be continuous which may include both formative and summative components in a timely manner for continuous feedback as follow:

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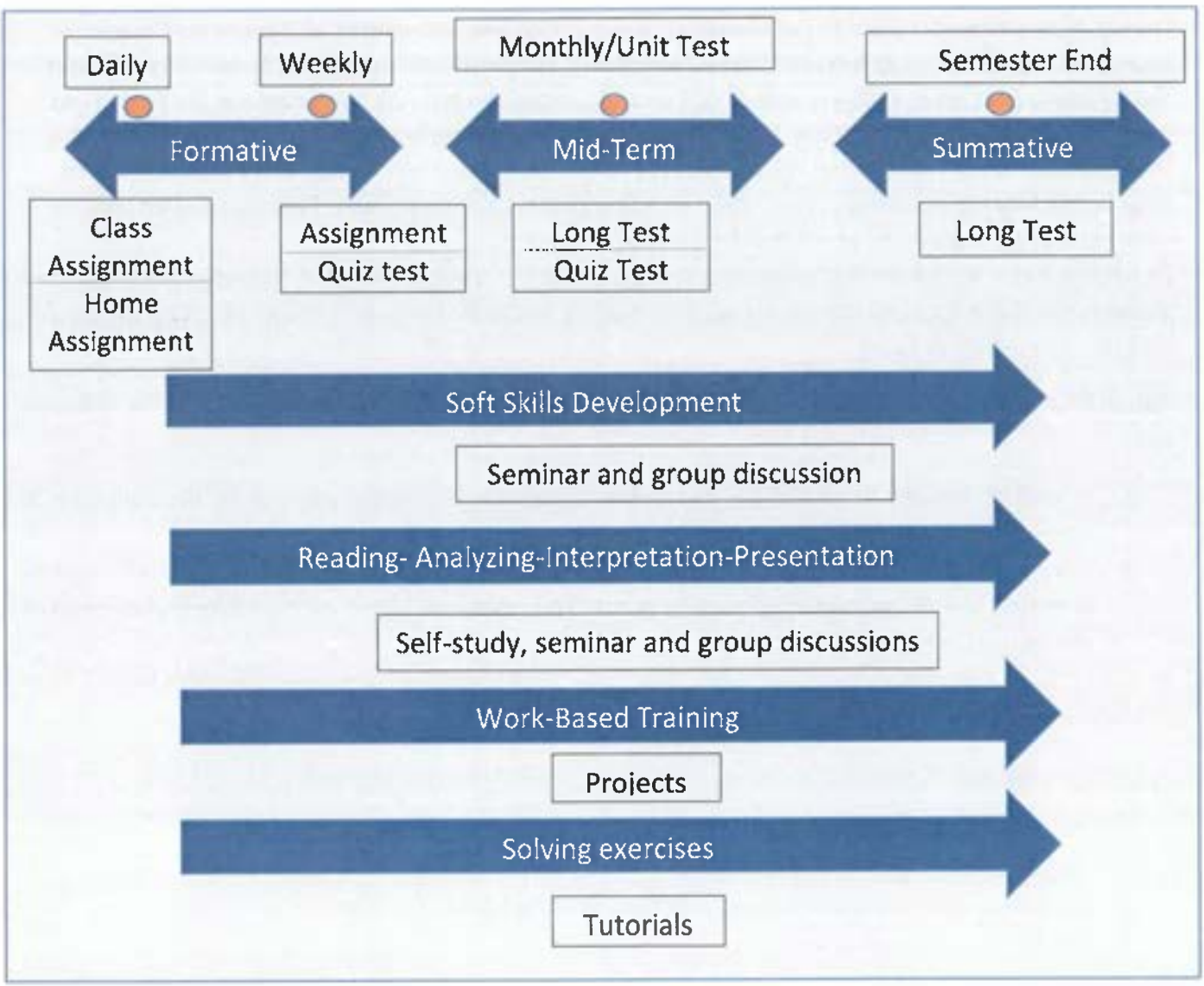

7.5 Assessment Band

NCrF proposes that the NCrF levels be equated with the assessment/ major assessment stage which will be a mandatory stage for a student/learner to clear. Between two mandatory stages, there may be 2-4 levels depending on whether it falls in the purview of school or higher education. The clubbing of these levels has been referred to as Assessment bands. The Credits earned for the two courses/ qualifications/ programmes or through experiential learning (either Regular/ Online/ ODL mode of education) may be accumulated and added if earned in the same assessment band, subject to the guidelines of respective regulators. The regulator may also consider setting up broad learning outcomes for each level and band so defined.

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Accordingly, the assessment bands so formulated are indicated below:

Academic Band	Academic Grade/Level	NCrF Credit Level	Min. Credit earned/Year	Assessment Band
2 Years-Secondary	Class-IX	2.5	40	Assessment Band- III
	Class-X	3.0	40	
2 years-Senior secondary	Class-XI	3.5	40	Assessment Band- IV
	Class-XII	4.0	40	
4 Year UG Degree with Honours/ Honours with Research	UG-1st Year	4.5	40	Assessment Band- V & VI
	UG- 2nd Year	5.0	40	
	UG- 3rd Year	5.5	40	
	4th Year UG with Honours/ Honours with Research PG- 1st Year	6.0	40	
PG Degree (1/2 Years)	PG 2nd Year /1- year PG/1st Year (Engg.)	6.5	40	Assessment Band-VII
	PG 2nd Year (Engg.)	7.0	40	
Doctoral Degree	Ph.D.	8.0	40	Assessment Band-VIII

7.6 Mode of Evaluation

A wide range of modes of evaluation for evaluating students is available for the teachers/ institutions to use. A suitable compendium of such a mode needs to be carefully chosen for a particular program depending on its nature, objectives, and available resources. The mode of evaluation can be as below:

Written Mode	Oral Mode	Practical Mode	Integrated Mode
1. Semester Exam	1. Viva/Oral exam	1. Lab work	1. Paper presentation/Seminar
2. Class Test	2. Group Discussion	2. Computer simulation/virtual labs	2. Field Assignment
3. Open book exam/test	3. Role Play	3. Craft work	3. Poster presentation
4. Open note exam/test	4. Authentic Problem Solving	4. Co-curricular work	
5. Self-test/ Online test	5. Quiz		
6. Essay/Article writing	6. Open Book Reading		
7. Quizzes/Objective test	7. Interview		
8. Class assignment			
9. Home assignment			
10. Reports Writing			
11. Research/Dissertation			
12. Case Studies			

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Nature and Objectives of various types of evaluation:

Written Mode		
Evaluation Type	**Nature**	**Objectives**
Semester Exam	Traditionally essay type	For depth and planned preparation
Class test	Traditionally essay type	Fixed date forces students to learn
Open book test	Allowed choice of reference book	Measures what students can do with resources, less stress on memory
Open note test	To get used to the system	Encourage good note taking
Self-test	For subjective and objective items	Mastery learning occurs with proper feedback
Article/essay writing	Individual long written assignment	Individual expression and creativity
Quizzes/Objective test	Short duration structured test	Excellent validity as greater syllabus coverage
Class assignment	With defined time	Student's performance to make decision
Home assignment	With undefined time	Reinforce learning and facilitate mastery of specific skills
Reports Writing	On activities performed or event observed	Develop a key transferable skill
Research/Dissertation	Detailed research-based report	To judge creativity and research skills
Case Studies	Analyse a given case (real or fictional)	To assess thinking, value, and attitude

Oral Mode		
Evaluation Type	**Nature**	**Objectives**
Viva/Oral exam	Individually or in small group	Practical experience towards job interview situation
Group discussion	Small group of 2-5 members work on a joint task	Encourage teamwork
Role Play	Small group of 2-5 members work on a joint task	Develop personality
Authenticate problem solving	Small group of 2-5 members work on a joint task	Communication of ideas
Quiz	Small group of 2-5 members work on a joint task	Assess memory power
Interview	Individually	Judge the personal confidence level

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Practical Mode		
Evaluation Type	Nature	Objectives
Lab work	Component of working with one's hand	Keep the students on the task
Computer simulation/virtual labs	Component of working with one's hand	To understand the practical exposure
Craft work	Component of working with one's hand	Encourage application of concepts learnt
Co-curricular work	Component of working with one's hand	For immediate feedback

Integrated Mode		
Evaluation Type	Nature	Objectives
Paper presentation/Seminar	Group or individual work	Learn from others presentation
Field Assignment	Field visit with report	Develop observation and recording skills
Poster presentation	Group or individual work	Develop research, creativity, and discussion skills

7.7 Models of evaluation

Based on the types of evaluation, various models of evaluation implementation are suggested for theory, practical, self-study and work-based learning. The focus of these models is to encourage the students to improve on skills and performance.

Model for Theory Courses	
CEE- 50% (50)	SEE- 50% (50)
Exam Pattern	**Marks**
Class Test (best 2 out of 3)	15
Quiz (Best 3 out of 4)	15
Active Learning	05
Home Assignment	05
Class Assignment	05
Attendance	05
Continuous and Comprehensive Evaluation	**50**
Semester-End Evaluation	**50**

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Model for Practical Courses	
CEE- 50% (50)	SEE- 50% (50)
Exam Pattern	**Marks**
Lab work assessment (best 4 out of 5)	20
Viva voce/Lab quiz (best 4 out of 5)	20
Attendance	10
Continuous and Comprehensive Evaluation	**50**
Semester-End Evaluation	**50**

Model for Project/Self-study course	
CEE- 50% (50)	SEE- 50% (50)
Exam Pattern	**Marks**
Project Evaluation (Best 3 out of 5)	30
Participation in discussion	10
Attendance	10
Continuous and Comprehensive Evaluation	**50**
Semester-End Evaluation	**50**

Model for work experience course	
CEE- 50% (50)	SEE- 50% (50)
Exam Pattern	**Marks**
Project Evaluation (Best 3 out of 5)	30
Participation in discussion	10
Attendance	10
Continuous and Comprehensive Evaluation	**50**
Semester-End Evaluation	**50**

Evaluation Pattern for Four Years Course: (Total Semesters: 08 ; Total Credits: 176)

Semester: I

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM200-1C	Major Course- I	45	30	4	50	50	100
PHM201-1C	Major-Course- II	45	30	4	50	50	100
PHE300-1C	Minor Course- I	45	30	4	50	50	100
MDC201-1C	Multidisciplinary Course- I	45	30	4	50	50	100
AEC201-1C	Ability Enhancement Course- I	30	00	2	25	25	50

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SEC201-1C	Skill Enhancement Course- I	15	30	2	25	25	50
IKS201-1C	Indian Knowledge System- I	15	30	2	25	25	50
	Total	**240**	**180**	**22**	**275**	**275**	**550**

Semester- II

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM203-1C	Major Course- III	45	30	4	50	50	100
PHM204-1C	Major-Course- IV	45	30	4	50	50	100
PHE301-1C	Minor Course- II	45	30	4	50	50	100
MDC202-1C	Multidisciplinary Course- II	45	30	4	50	50	100
AEC202-1C	Ability Enhancement Course- II	30	00	2	25	25	50
SEC202-1C	Skill Enhancement Course- II	15	30	2	25	25	50
VAC201-1C	Value Added Course- I (NSS)	15	30	2	25	25	50
	Total	**240**	**180**	**22**	**275**	**275**	**550**

Semester III

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM205-2C	Major Course- V	45	30	4	50	50	100
PHM206-2C	Major-Course- VI	45	30	4	50	50	100
PHM207-2C	Major Course- VII	45	30	4	50	50	100

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MDC203-2C	Multidisciplinary Course- III	45	30	4	50	50	100
AEC203-2C	Ability Enhancement Course- III	30	00	2	25	25	50
SEC203-2C	Skill Enhancement Course- III	15	30	2	25	25	50
IKS202-2C	Indian Knowledge System- II	30	00	2	25	25	50
	Total	**255**	**150**	**22**	**275**	**275**	**550**

Semester IV

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM208-2C	Major Course- VIII	45	30	4	50	50	100
PHM209-2C	Major-Course- IX	45	30	4	50	50	100
PHM210-2C	Major Course- X	45	30	4	50	50	100
PHE303-2C	Minor Course- III	45	30	4	50	50	100
AEC204-2C	Ability Enhancement Course- IV	15	30	2	25	25	50
SEC204-2C	Skill Enhancement Course- IV	15	30	2	25	25	50
VAC202-2C	Value Added Course- II (NCC)	15	30	2	25	25	50
	Total	**225**	**210**	**22**	**275**	**275**	**550**

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Semester V

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM301-3C	Major Course- XI	45	30	4	50	50	100
PHM302-3C	Major-Course- XII	45	30	4	50	50	100
PHM303-3C	Major Course- XIII	45	30	4	50	50	100
PHE304-3C	Minor Course- IV	45	30	4	50	50	100
PHE305-3C	Minor Course- V	45	30	4	50	50	100
SEC301-3C	Skill Enhancement Course- V	15	30	2	25	25	50
	Total	**240**	**180**	**22**	**275**	**275**	**550**

Semester VI

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM304-3C	Major Course- XIV	45	30	4	50	50	100
PHM305-3C	Major-Course- XV	45	30	4	50	50	100
PHM306-3C	Major Course- XVI	45	30	4	50	50	100
PHE306-3C	Minor Course- VI	45	30	4	50	50	100
AEC205-3C	Ability Enhancement Course- V	15	30	2	25	25	50
	Internship	00	120	4	50	50	100
	Total	**195**	**270**	**22**	**275**	**275**	**550**

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Semester VII: Honours Degree

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM401-4C	Major Course- XVII	45	30	4	50	50	100
PHM402-4C	Major-Course- XVIII	45	30	4	50	50	100
PHM403-4C	Major Course- XIX	45	30	4	50	50	100
CHE401-4C	Minor Course- VII	45	30	4	50	50	100
	On-the-Job Training	00	180	6	75	75	150
	Total	**180**	**300**	**22**	**275**	**275**	**550**

Semester VIII: Honours Degree

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory	Practical		CCE (Formative) (Weekly Test/Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM404-4C	Major Course- XX	45	30	4	50	50	100
PHM405-4C	Major-Course- XXI	45	30	4	50	50	100
PHM406-4C	Major Course- XXII	45	30	4	50	50	100
CHE402-4C	Minor Course- VIII	45	30	4	50	50	100
	On-the-Job Training	00	180	6	75	75	150
	Total	**180**	**300**	**22**	**275**	**275**	**550**

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Semester VII: Honours with Research Degree

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory/ Report writing	Practical/ Presentation		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM401-4C	Major Course- XX	45	30	4	50	50	100
PHM402-4C	Major-Course- XXI	45	30	4	50	50	100
PHM403-4C	Major Course- XXII	45	30	4	50	50	100
CHE401-4C	Minor Course- VIII	45	30	4	50	50	100
	Research Project	150	30	6	75	75	150
	Total	**330**	**150**	**22**	**275**	**275**	**550**

Semester VIII: Honours with Research Degree

Course Code	Title of the Paper	Duration in Hrs.		Credit	Max. Marks		Total
		Theory/ Report writing	Practical/ Presentation		CCE (Formative) (Weekly Test/ Assignment/Attendance/ Practical/Viva/Group Discussion/Quiz)	SEE (Summative)	
PHM404-4C	Major Course- XX	45	30	4	50	50	100
PHM405-4C	Major-Course- XXI	45	30	4	50	50	100
PHM406-4C	Major Course- XXII	45	30	4	50	50	100
CHE402-4C	Minor Course- VIII	45	30	4	50	50	100
	Research Project	150	30	6	75	75	150
	Total	**330**	**150**	**22**	**275**	**275**	**550**

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Model of evaluation for 100 marks (4 Credits paper)

Continuous and Comprehensive Evaluation (CCE)- Formative- 50 Marks				Semester End Evaluation (SEE)- Summative- 50 Marks
Written	Oral	Practical	Integrated	Final Test
1. Weekly/Unit Test 2. Open book/note test 3. Online test 4. Essay/Article writing 5. Objective test 6. Class/Home assignment 7. Reports Writing 8. Research/Dissertation 9. Case Studies 10. Project Writing 11. Journal Writing 12. Multiple Choice Questions 13. Seen/Open Question 14. Take Home 15. Assignment Writing	1. Viva/Oral exam 2. Group Discussion 3. Role Play 4. Authentic Problem Solving 5. Quiz 6. Interview 7. Open book reading 8. Inter Forum Debate 9. Speech 10. Reading Test	1. Lab work 2. Computer simulation/virtual labs 3. Craft work 4. Co-curricular work 5. Activities and brainstorming games	1. Paper presentation/ Seminar 2. Field Assignment 3. Poster presentation 4. Self and Peer Evaluation	1. Writing and Memory skill test
15	10	15	10	50

Model of evaluation for 50 marks (2 Credits paper)

Continuous and Comprehensive Evaluation (CCE)- Formative- 25 Marks				Semester End Evaluation (SEE)- Summative- 25 Marks
Written	Oral	Practical	Integrated	Final Test
1. Weekly/Unit Test 2. Open book/note test 3. Online test 4. Essay/Article writing 5. Objective test 6. Class/Home assignment 7. Reports Writing	1. Viva/Oral exam 2. Group Discussion 3. Role Play 4. Authentic Problem Solving 5. Quiz 6. Interview	1. Lab work 2. Computer simulation/virtual labs 3. Craft work 4. Co-curricular work	1. Paper presentation/ Seminar 2. Field Assignment 3. Poster presentation	1. Writing and Memory skill test

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8. Research/Dissertation 9. Case Studies 10. Project Writing 11. Journal Writing 12. Multiple Choice Questions 13. Seen/Open Question 14. Take Home 15. Assignment Writing	7. Open book reading 8. Inter Forum Debate 9. Speech 10. Reading Test	5. Activities and brainstorming games	4. Self and Peer Evaluation	
10	5	5	5	25

Note:

1. **HEIs may change the marks weightage in continuous and comprehensive evaluation (CCE) as per course requirements.**
2. **If required, HEIs may take exams of 100 marks for 4 credits and 50 marks for 2 credits subject each in CCE and SEE and assign pro-rata basis marks in the final marks sheet for calculation of grade sheet.**
3. **HEIs may arrange practical and viva evaluation either by internal faculty or along with external evaluator. Marks of practical and viva will be considered under CCE.**
4. **SEE written evaluation will be done mandatory in presence of external evaluator.**
5. **HEIs should choose different types of modes of evaluation in each category of CCE in multiplication of 5 marks. i.e., 1 type in 5 marks, 2 types in 10 marks and 3 types of modes of evaluation in 15 marks of evaluation. For example, Institution may adopt assignment test and weekly test in written mode of CCE evaluation for 10 marks.**

7.8 Question Paper Setting

Following procedure may be adopted to develop a question paper (Regular/ODL mode) of a particular course:

- Specifying objective/learning outcome to be tested
- Decide the question format
- Pool of question from the expert
- Review of questions
- Pilot testing
- Assessment of difficulty of the questions
- Final selection of question from the pool of questions

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7.9 Malpractices and Punishment

All students are warned not to resort to any kind of malpractice during the evaluation. The examination department/board may take appropriate actions against the concerned student(s) who is/are found to indulge in any kind of malpractices activities during the evaluation process.

7.10 On-Demand Evaluation

On-Demand Examination may provide flexibility to students, especially those enrolled under open and distance education modes. This system works on the principle of flexibility where assessment can take place when the learner considers themselves ready to appear. Thus, readiness depends on the learner and not on the institutions. An advantage of this system may result in a reduced number of failures in the examination.

7.11 Letter Grades and Grade Points

The relative grading system provides the relative performance of a student to a group/class wherein the student is ranked in a group/class on the basis of relative level of achievements.

HEIs may also mention the marks obtained by the students in each course and a weightage average of marks on the Grade sheet for the benefits of the students.

Letter Grade	Grade Point	Marks (In %)
O (Outstanding)	10	96.0-100
A+ (Excellent)	9	86.0-95.9
A (Very Good)	8	76.0-85.9
B+ (Good)	7	66.0-75.9
B (Above Average)	6	56.0-65.9
C (Average)	5	46.0-55.9
P (Pass)	4	36.0-45.9
F (Fail)	0	Below 36.0
Ab (Absent)	0	Absent

Minimum passing marks for each pattern of evaluation (formative and summative):

Maximum Marks	Minimum Passing Marks
25	9
50	18
100	36

7.11.1 Semester Grade Point Average (SGPA)

The SGPA is based on the grade of the current term of the programme of study.

Computation of SGPA

SGPA is computed from the grades as a measure of the student's performance in each semester. It is the ratio of the sum of the product of the number of credits with the grade points and the sum of the number of credits. i.e.

SGPA (Si) = $\sum$ (Ci X Gi) / $\sum$Ci

Where Si is the SGPA for i^{th} course, Ci is the number of credits of the i^{th} course and Gi is the grade point scored by the student in the i^{th} course.

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Example for computation of SGPA:

Semester	Course	Credit	Letter Grade	Grade Point	Credit Point
1	Course 1	3	O	10	3X10=30
1	Course 2	4	A	8	4X8=32
1	Course 3	3	A+	9	3X9=27
1	Course 4	4	B	6	4X6=24
1	Course 5	3	B+	7	3X7=21
		17			**134**
SGPA					**134/17=7.88**

7.11.2 Cumulative Grade Point Average (CGPA)

The CGPA is based on the grades in all the courses taken after joining the programme of study.

Computation of CGPA

The CGPA is the ratio of the sum of the products of total credits scored in a particular semester with the SGPA scored by the student in that semester and the sum of the total number of credits of each semester. i.e.

$CGPA = \sum (Ci \times Si) / \sum Ci$

Where Si is the SGPA of the i^{th} semester and Ci is the total number of credits in that semester.

Example for computation of CGPA:

Semester	Credits	SGPA	Sum of Credits and SGPA
1	18	8.2	18X8.2= 147.6
2	18	7.9	18X7.9= 142.2
3	20	8.3	20X8.3= 166.0
4	22	8.6	22X8.6= 189.2
5	18	8.1	18X8.1= 145.8
6	22	8.5	22X8.5= 187.0
	118		**977.8**
CGPA			977.8/118= 8.29

The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts (Grade Sheet). The transcript may issue for each semester based on SGPA and CGPA and consolidated transcript indicating the performance in each semester.

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7.12 Result Declaration

Declaration of results is a crucial element of the educational system of a higher educational institution on which rests its credibility and reputation. Timeliness is essential in case of both internal and external components of the evaluation. The following table shows a suggested timeline for CCE and SEE:

Continuous and Comprehensive Evaluation	
Daily Task	Before the next week
Weekly Task	Before the next task
Unit Test	Within one week
Semester End Evaluation	
Internal Components	7-10 working days
External Components	20-30 working days

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