CURRICULUM AND CREDIT FRAMEWORK

FOR

POST-GRADUATE PROGRAMMES (CCFPGP)

UNDER NEP 2020

WITH EFFECT FROM

THE

SESSION 2024-25

MAHARSHI DAYANAND UNIVERSITY

ROHTAK (HARYANA)

1. Introduction:

The National Education Policy (NEP) 2020 (hereafter referred to as NEP or the policy) envisages a new and forward-looking vision for India's higher education system. It recognizes that higher education plays an extremely important role in promoting human as well as societal well-being and in developing India as envisioned in its Constitution - a democratic, just, socially conscious, cultured, and humane nation upholding liberty, equality, fraternity, and justice for all. The NEP 2020 notes that "higher education significantly contributes towards sustainable livelihoods and economic development of the nation" and "as India moves towards becoming a knowledge economy and society, more and more young Indians are likely to aspire for higher education."

The Under Graduate Programmes as per NEP 2020 allows the students to experience full range of holistic multi-disciplinary education in addition to the focus on chosen Major and Minor Courses as per their choices. The postgraduate programmes help students to extend their knowledge of their chosen subject and prepare them for higher research studies. The advanced knowledge and specialized skills they gain in the PG programme are crucial to sustaining the journey of a student from the acquirer of knowledge to the creator of knowledge.

2. PG Programmes in light of NEP 2020

The characteristics of post graduate programme as per UGC regulations are as follows:-

- There may be a 2-year programme with the second year devoted entirely to research for those who have completed the 3-year Bachelor's programme.
- For students completing a 4-year Bachelor's programme with Honours/Honours with Research, there could be a 1-year Master's programme; and
- There may be an integrated 5-year Bachelor's/Master's programme with exit options.
- There shall be two levels of Master's Programmes namely level 6 and 6.5 according to National Higher Education Qualifications Framework (NHEQF)
- The PG framework shall be in sync with National Credit Framework (NCrF) for the creditization of all learning and assignment, accumulation, storage, transfer & redemption of credits, subject to assessment.

3. Main features of the Master's Curriculum Framework:

- Flexibility to move from one discipline of study to another.
- Flexibility for students who qualify UG with a double major to opt for any of the two subjects they have majored.
- Flexibility for students who qualify UG with a major and minor (s) to opt for either major or minor(s) subject in Master's programme.
- Opportunity for learners to choose the courses of their interest;
- Flexibility to switch to alternative modes of learning (offline, ODL, Online learning, and hybrid modes of learning).

4. Credit requirement for the Master's Programme:

- A bachelor's degree with Honours/ Honours with Research with a minimum of 160 credits for a 1-year master's programme at level 6.5 on the NHEQF.
- A 3-year bachelor's degree with a minimum of 120 credits for a 2-year master's programme at level 6.5 on the NHEQF
- A person who has passed 10+2 examination from Haryana Board of School Education or any other examination recognized by the M.D. University, Rohtak as equivalent thereto shall be eligible for admission for Five year integrated Programme (UG+PG).

5. Eligibility for the Master's Programme:

A student is eligible for a master's programme in a discipline corresponding to either major or minor(s) discipline in UG programme. In this case, the University can admit the students in the Master's programme based on the student's performance in the UG programme or through an entrance examination. However, a student is eligible for admission in any discipline of Master's programmes irrespective of the major or minor disciplines chosen by a student in a UG programme, if the student qualifies the National level or University level entrance examination in the discipline of the Master's programme. However, such flexibility is to be decided by the concerned Board of Studies.

6. Definition of Keywords

Course:

Course refers to a paper having specified credits which is a component of a programme in a discipline/subject. The course defines the learning objectives and learning outcomes. A course may be designed comprising credits for lectures/tutorials/laboratory work/field work/outreach activities/project work/internship/vocational training etc. or combination thereof.

Levels of Courses as per UGC Guidelines

0-99	Pre-requisite courses
100-199	Foundation or introductory courses
200-299	Intermediate-level courses
300-399	Higher-level courses
400-499	Advanced courses
500-599	Courses at first-year Master's degree level for a 2-year Master's degree programme
600-699	Courses for second-year of 2-year Master's or 1-year Master's degree programme
700-799 and above	Courses limited to doctoral students.

Credit:

Credit is the weightage given to each course of study. It is the numerical value assigned to a course according to the relative importance of the contents and the contact hours required to teach the prescribed syllabi of the programme.

Discipline Specific Course (DSC)/Major Course:

Discipline specific/Major course is the discipline or subject of main focus in which the degree will be awarded. Students should secure the prescribed number of credits (atleast 50% of total credits) through Discipline Specific Course/Major Course in the major discipline.

Minor Course (MIC):

Minor discipline is the discipline that helps a student to gain a broader understanding beyond the major discipline. For example, if a student pursuing Economics as major course may choose Statistics as minor course.

Vocational Course (VOC):

Vocational Course assists student in developing workforce-relevant skills and enhance the employability of student.

Multidisciplinary Course (MDC):

A Multidisciplinary Course is an option to explore disciplines of interest beyond the choices of learners made in their major and minor disciplines.

Ability Enhancement Course (AEC):

Ability Enhancement Course aims to achieve competency in language and communication skills.

Skill Enhancement Course (SEC):

Skill Enhancement Course aims to promote skills pertaining to a particular field of study, impart practical skills, hands-on training, soft skills, etc., in order to enhance the student's employability.

Internship:

Internship is a course to develop a professional ability through an appropriate learning. The duration of Internship is of 120 hours during summer vacation.

Research thesis/Project:

Research thesis/Project is a course involving applications of knowledge in exploring, analyzing and solving real-life situations/problems.

Semester/Academic Year

A semester comprises 90 working days and an academic year is divided into two semesters.

Academic Bank of Credit (ABC)

Academic Bank of credit is an academic service mechanism to facilitate students to become its academic account holders, thereby paving the way for seamless student mobility between or within degree-granting Higher Educational Institutions through a formal system of credit recognition, credit accumulation, credit transfers and credit redemption to promote distributed and flexible teaching-learning. ABC will digitally store the academic credits earned by students from HEIs registered with ABC for awarding degrees/diplomas/certificates taking into account credits earned by students.

Academic Bank Account

Academic Bank Account is an individual account with the Academic Bank of Credits opened and operated by a student, to which all academic credits earned by the Student from course(s) of study are deposited, recognized, maintained, accumulated, transferred, validated or redeemed for the purposes of the award of degree/diploma/certificates etc. by an awarding institution.

Exit Option

There shall **only be one exit point for those who join two year PG programme**. Students who exit at the end of 1st year shall be awarded a Postgraduate Diploma. The University may create 10% additional seats over and above the sanctioned strength to accommodate the lateral entry of such PG students who exited after completion of one year PG Diploma.

Credit Point

It is the product of the grade point and the number of credits for a course.

Grade Point

It is a numerical weight allotted to each letter grade on a 10-point scale.

Letter Grade

It is an index of the performance of students in a said course. Grades are denoted by letters O, A+, A, B+, B, C, P and F.

Semester Grade Point Average (SGPA)

The SGPA is the ratio of total credit points secured by a student in various courses registered in a semester and the total course credits taken during that semester. It shall be expressed up to two decimal places.

Cumulative Grade Point Average (CGPA)

The CGPA is the ratio of total credit points secured by a student in various courses in all semesters and the sum of the total credits of all courses in all the semesters. It is expressed up to two decimal places.

7. Graduate Attributes of PG Programmes

The graduate attributes reflect the particular quality and feature or characteristics of an individual, including the knowledge, skills, attitudes and values that are expected to be acquired by a graduate through studies at the higher education institution (HEI) such as a college or

university. The graduate attributes include capabilities that help strengthen one's abilities for widening current knowledge base and skills, gaining new knowledge and skills, undertaking future studies, performing well in a chosen career and playing a constructive role as a responsible citizen in the society. The graduate attributes define the characteristics of a student's university degree programme(s), and describe a set of characteristics/competencies that are transferable beyond study of a particular subject area and programme contexts in which they have been developed. Graduate attributes are fostered through meaningful learning experiences made available through the curriculum, the total college/university experiences and a process of critical and reflective thinking.

The graduate attributes include capabilities that help:

- Broaden the current knowledge base and skills,
- Gain and apply new knowledge and skills,
- Undertake future studies independently,
- Perform well in a chosen career,
- Play a constructive role as a responsible citizen in society.

Graduate attributes include learning outcomes that are specific to disciplinary areas relating to the chosen field(s) of learning and generic learning outcomes that graduates of all programmes of study should acquire and demonstrate.

8. Program Learning Outcomes

The programme learning outcomes are aligned with the relevant qualification descriptors. Programme learning outcomes will include subject-specific skills and generic skills, including transferable global skills and competencies, the achievement of which the students of a specific programme of study should be able to demonstrate for the award of the certificate/ Diploma/Degree qualification. The programme learning outcomes would also focus on knowledge and skills that prepare students for further study, employment, and citizenship. They help ensure comparability of learning levels and academic standards across colleges/ universities and provide a broad picture of the level of competence of graduates of a given programme of study. A programme of study may be mono disciplinary, multi-disciplinary or inter-disciplinary.

Common components of PLO are:

Program specific learning outcomes	Generic learning outcomes
• A comprehensive knowledge and coherent understanding of the chosen disciplinary/ interdisciplinary areas of study • Practical, professional, and procedural knowledge required for carrying out various work/tasks related to the chosen field(s) of learning • Application of knowledge and skills • Capacity to extrapolate the acquired knowledge and skills to real-life situations and apply acquired competencies in new/unfamiliar contexts	• Problem-solving • Critical thinking • Creativity • Communication Skills • Research-related skills • Collaboration • Learning how to learn • Constitutional, humanistic, ethical, and moral values

The template for Programme Learning Outcomes (PLO) and course mapping with PLOs is enclosed as **Annexure A.** The Learning Outcomes Descriptors for PG Programmes i.e. levels 6 to 6.5 is given as **Annexure B**.

9. Design of PG Programmes

According to the policy, the University will have the flexibility to have different designs of master's programme. Seemingly it appears there are three designs of PG such as 1-year master, 2-year master, and an integrated 5-year programme.

For 1-year PG: Students entering 1-year Master's program after a 4-year UG programme can choose to do

i. only coursework or
ii. research or
iii. coursework and research.

For 2-year PG: Students entering 2-year Master's Program after a 3-year UG programme can choose to do :

i. only course work in the third and fourth semester or
ii. course work in the third semester and research in the fourth semester or
iii. only research in the third and fourth semester.

For 5-year Integrated Programme (UG+PG): At the Master's level, the curricular component of 5-year integrated programme will be similar to that of 2-year Master's program mentioned above. **There is separate Curriculum and Credit Framework and Ordinance for Five Year Integrated Programmes of the University.**

10. Credit Distribution for Post Graduate Programmes:

In accordance with the NHEQF, the levels for the master's programme are given in the **Table 1.**

Table 1. Level of PG programs

Sr. No.	Qualification	Level	Minimum Credit Requirement as per UGC Guidelines	Total Credits for Master's Program of MDU
1.	P.G. Diploma	6	40	44
2.	1-Year PG after a 4-year UG	6.5	40	44
3.	2-Year PG after a 3-year UG	6.5	40+40	44+44

The structure of Curriculum and Credit Framework for Master's Programmes is given in **Table 2 and Table 3.**

Table 2: Structure for 2 year Post Graduate Programme

	Semester	Discipline-Specific Courses (DSC)	Skill Enhancement Courses (SEC) / Vocational Courses (VOC)/ Internship	Research thesis/project	Total Credits
	First year of 2 Year PG program (NHEQF Level 6)				
	I	DSC 1 @ 4 credits	SEC1/VOC 1/Internship 1 @ 4 credits	---	24
		DSC 2 @ 4 credits			
		DSC 3 @ 4 credits			
		DSC 4 @ 4 credits			
		DSC 5 @ 4 credits			
	II	DSC 6 @ 4 credits	SEC2/VOC2/Internship 2 @ 4 credits	---	24
		DSC 7 @ 4 credits			
		DSC 8 @ 4 credits			
		DSC 9 @ 4 credits			
		DSC 10 @ 4 credits			
Students who exit after first year on completion of 48 credits will be awarded PG Diploma in concerned discipline					
Second year of two year PG program (NHEQF Level 6.5) (STUDENT SHOULD SELECT ANY ONE OPTION FOR THE SECOND YEAR OF 2 YEAR PG PROGRAM)					
Only Course Work					
Option 1	III	DSC 11 @ 4 credits	SEC 3/Internship 3/ Project Work 1 @ 4 credits	---	24
		DSC 12 @ 4 credits			
		DSC 13 @ 4 credits			
		DSC 14 @ 4 credits			
		DSC 15 @ 4 credits			
	IV	DSC 16 @ 4 credits	SEC4/Internship 4/ Project Work 2 @ 4 credits	---	24
		DSC 17 @ 4 credits			
		DSC18 @ 4 credits			
		DSC19 @ 4 credits			
		DSC20 @ 4 credits			
Course work and Research					
Option 2	III	DSC 11 @ 4 credits	SEC 3/Internship 3 @ 4 credits	---	24
		DSC 12 @ 4 credits			
		DSC 13 @ 4 credits			
		DSC 14 @ 4 credits			
		DSC 15 @ 4 credits			
	IV	--	SEC4/Internship 4 @ 4 credits	Research thesis/project @20 credits	24
Only Research (only for the students who have completed 3 Years Bachelor's Program)					

	Semester	Discipline-Specific Courses (DSC)	Skill Enhancement Courses (SEC) / Vocational Courses (VOC)/ Internship	Research thesis/project	Total Credits
Option 3	III	--	SEC3/Internship 3 @ 4 credits	20 credits*	24
	IV	--	SEC4/Internship 4 @ 4 credits	20 credits**	24

Note:

*The students who opted Option 3 should submit a project report/synopsis of atleast 50 pages comprising of Literature survey, identification of Research Problem, Plan of work, methodology as well as practical work (if any) at the end of 3rd semester and the same will be evaluated by internal and external examiners.

**The students should continue the research work in 4th semester based on the project work/synopsis submitted at the end of 3rd semester. The final thesis/project report will be evaluated by the internal and external examiners.

Table 3: Structure for 1 year Post Graduate Programme

	Semester	Discipline-Specific Courses (DSC)	Skill Enhancement Courses (SEC) / Vocational Courses (VOC)/Internship	Dissertation/ Project work	Total Credits
(STUDENT SHOULD SELECT ANY ONE OPTION)					
Only Course Work					
Option 1	I (Semester III of 2 year PG Program)	DSC 11 @ 4 credits	SEC 3/Internship 3/ Project Work 1 @ 4 credits	---	24
		DSC 12 @ 4 credits			
		DSC 13 @ 4 credits			
		DSC 14 @ 4 credits			
		DSC 15 @ 4 credits			
	II (Semester III of 2 year PG Program)	DSC 16 @ 4 credits	SEC4/Internship 4/ Project Work 2 @ 4 credits	---	24
		DSC 17 @ 4 credits			
		DSC18 @ 4 credits			
		DSC19 @ 4 credits			
		DSC20 @ 4 credits			
Course work and Research					
Option 2	I (Semester III of 2 year PG Program)	DSC 11 @ 4 credits	SEC 3/Internship 3 @ 4 credits	---	24
		DSC 12 @ 4 credits			
		DSC 13 @ 4 credits			
		DSC 14 @ 4 credits			
		DSC 15 @ 4 credits			
	II (Semester III of 2 year PG Program)	--	SEC4/Internship 4 @ 4 credits	Dissertation/ Project work @ 20 credits	24

11. Credit hours for different types of courses and marks distribution

A credit is a unit by which the workload relating to a course is measured. It determines the number of hours of instruction required per week over the duration of a semester (minimum 15 weeks).

Required contact hours to earn credits will be as follows:

Nature of Work	Course Credits	Contact hours per week	Contact hours per semester (15 weeks)
Lecture	**01**	**01**	**15**
Tutorial per paper	**01**	**01**	**15**
Practical, Seminar, workshop etc.	**01**	**02**	**30**

A course can have a combination of lecture credits, tutorial credits, and practicum credits. For example, a 4–credit course with three credits assigned for lectures and one credit for practicum shall have three 1-hour lectures per week and one 2-hour duration field-based learning/project or lab work, or workshop activities per week. In a semester of 15 weeks duration, a 4-credit course is equivalent to 45 hours of lectures and 30 hours of practicum. Similarly, a 4 –credit course with 3- credits assigned for lectures and one credit for tutorial shall have three 1-hour lectures per week and one 1-hour tutorial per week. In a semester of 15 weeks duration, a four-credit course is equivalent to 45 hours of lectures and 15 hours of tutorials.

The marks distribution according to the credit hours is 1 credit = 25 Marks

Credit	Marks
2 credit	50
3 credit	75
4 credit	100
20 credits research work	500

12. Course Curriculum and Syllabus:

The course curriculum and syllabus of PG and five year integrated programme shall be developed by the concerned Board of Studies and be implemented after obtaining approval of the Academic Council.

13. Assessment

The NEP 2020 emphasizes upon formative and continuous assessment rather than summative assessment. Therefore, the scheme of assessment should have components of these two types of assessments. Assessment has to have correlations with the learning outcomes that are to be achieved by a student after completion of the course. The process of assessment is dealt by the Ordinance for PG Programs.

14. Power to Remove Difficulties:

If any difficulty arises in giving effect to the provisions of this Ordinance, the Vice Chancellor may, by order, make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary or expedient to remove the difficulty, however subject to ratification of such order by the Statutory bodies of the University.

ANNEXURE - 'A'

PROGRAM LEARNING OUTCOMES OF PG PROGRAMMES

The graduate on completion of Masters programme will be able to:-

PLO 1	Demonstrate advanced knowledge about _____ with a critical understanding of the emerging developments and issues relating to the learners domain area.
PLO 2	Demonstrate advanced knowledge and understanding of principles, methods, and techniques applicable to the chosen field of study.
PLO 3	Demonstrate the capacity to extrapolate the acquired knowledge and skills to real-life situations and apply acquired competencies in new/unfamiliar contexts
PLO 4	Demonstrate the ability to apply the acquired conceptual, operational or technical knowledge and a range of cognitive and practical skills to identify and address problems related to the chosen field of learning.
PLO 5	Demonstrate the apply advanced knowledge relating to research methods to carryout research and investigations to formulate evidence-based solutions to complex and unpredictable problems in the field of _____.
PLO 6	Demonstrate the ability to communicate, in a well-structured manner the findings/ results of the research studies undertaken in the field of _____.
PLO 7	pursue self-paced and self- directed learning to upgrade knowledge and skills, including research-related skills avoiding unethical practices.

Course Learning Outcomes

The programme learning outcomes are attained by learners through the essential learnings acquired on completion of selected courses of study within a programme. The term 'course' is used to mean the individual courses of study that makes up the scheme of study for a programme. Course learning outcomes are specific to the learning for a given course of study related to a disciplinary or interdisciplinary/multi-disciplinary area. Some programmes of study are highly structured, with a closely laid down progression of compulsory/core courses to be taken at particular phases/stages of learning. Some programmes allow learners much more freedom to take a combination of courses of study according to the preferences of individual student that may be very different from the courses of study pursued by another student of the same programme. Course-level learning outcomes will be aligned to programme learning outcomes.

Course Mapping with PLOs

Course level learning outcomes are specific to a course of study within a given programme of study. The achievement by students of course-level learning outcomes leads to the attainment of the programme learning outcomes. At the course level, each course may well have links to some but not all graduate attributes as these are developed through the totality of student learning experiences across the years of their study. A course map would indicate the linkage between course learning outcomes and each

programme learning outcome. A course map would indicate the linkage between course learning outcomes and each programme learning outcome (**Table 1**).

Table 1: Course mapping with PLO for Undergraduate Programmes (Multidisciplinary)

	PLO 1	**PLO 2**	**PLO 3**	**PLO 4**	**PLO 5**	**PLO 6**	**PLO 7**
Course 1							
Course 2							
Course 3							
Course 4							
Course 5							
Course 6							
Course 7							
Course 8							
Course 9							
Course 10							
Course 11							
Course 12							
Course 13							
Course 14							
Course 15							
Course 'n'							

ANNEXURE-B

Learning Outcomes Descriptors for Higher Education qualification at levels 6 to 6.5

Elements of the Descriptors	Level 6 Bachelor's Degree (Honors / Honors with Research)
Knowledge and understanding	The graduates should be able to demonstrate the acquisition of: • advanced knowledge about a specialized field of enquiry, with depth in one or more fields of learning within a broad multidisciplinary/ interdisciplinary context, • a coherent understanding of the established methods and techniques of research and enquiry applicable to the chosen fields of learning. • an awareness and knowledge of the emerging developments and issues in the chosen fields of learning, • procedural knowledge required for performing and accomplishing professional tasks associated with the chosen fields of learning.
Skills required to perform and accomplish tasks	The graduates should be able to demonstrate the acquisition of: • a range of cognitive and technical skills required for performing and accomplishing complex tasks relating to the chosen fields of learning, • cognitive and technical skills relating to the established research methods and techniques, • cognitive and technical skills required to evaluate complex ideas and undertake research and investigations to generate solutions to real-life problems, • generate solutions to complex problems independently, requiring the exercise of full personal judgement, responsibility, and accountability for the output of the initiatives taken as a practitioner.
Application of knowledge and skills	Graduates should demonstrate the ability to: • apply the acquired advanced technical and/or theoretical knowledge and a range of cognitive and practical skills to analyze the quantitative and qualitative data gathered drawing on a wide range of sources for identifying problems and issues relating to the chosen fields of learning, • apply advanced knowledge relating to research methods to carryout research and investigations to formulate evidence-based solutions to complex and unpredictable problems.
Generic learning outcomes	The graduates should be able to demonstrate the ability to: • listen carefully, read texts and research papers analytically and present complex information in a clear and concise manner to different groups/ audiences, • communicate technical information and explanations, and the findings/results of the research studies relating to specialized fields of learning, • present in a concise manner one's views on the relevance and applications of the findings of research and evaluation studies in the context of emerging developments and issues, • meet one's own learning needs relating to the chosen fields of learning, • pursue self-paced and self directed learning to upgrade knowledge and skills that will help accomplish complex tasks and pursue higher level of education and research, • Demonstrate a keen sense of observation, inquiry, and capability for asking relevant and appropriate questions,

	• problematize, synthesize and articulate issues and design research proposals, • define problems, formulate appropriate and relevant research questions, • formulate hypotheses, test hypotheses using quantitative and qualitative data, and establish hypotheses, make inference based on the analysis and interpretation of data, and predict causeand-effect relationships, • develop appropriate tools for data collection, • examine and assess the implications and consequences of emerging developments and issues relating to the chosen fields of study based on empirical evidence, • make judgement in a range of situations by critically reviewing and consolidating evidences, • exercise judgement based on evaluation of evidence from a range of sources to generate solutions to complex problems, including real-life problems, associated with the chosen fields of learning requiring the exercise of full personal responsibility and accountability for the initiatives undertaken and the outputs/ outcomes of own work as well as of the group as a team member.
Constitutional, humanistic, ethical and moral values	The graduates should be able to demonstrate the acquisition of: • embrace and practice constitutional, humanistic, ethical, and moral values in one's life, • adopt objective, unbiased, and truthful actions in all aspects of work related to the chosen field(s) of learning and professional practice, • present coherent arguments in support of relevant ethical and moral issues, • participate in actions to address environmental and sustainable development issues, • follow ethical practices in all aspects of research and development, including avoiding unethical practices such as fabrication, falsification or misrepresentation of data or committing plagiarism.
Employment ready skills, and entrepreneurship skills and mindset	The graduates should be able to demonstrate the acquisition of knowledge and skills set and competencies required for: • adapting to the future of work and to the demands of the fast pace of technological developments and innovations that drive shift in employers' demands for skills, particularly with respect to transition towards more technology assisted work involving the creation of new forms of work and rapidly changing work and production processes, • managing complex technical or professional activities or projects, requiring the exercise of full personal responsibility for output of own work as well as for the outputs of the group as a member of the group/team, • exercising supervision in the context of work having unpredictable changes.

Elements of the Descriptors	Level 6.5 Master's Degree
Knowledge and understanding	The graduates should be able to demonstrate the acquisition of: • advanced knowledge about a specialized field of enquiry with a critical understanding of the emerging developments and issues relating to one or more fields of learning, • advanced knowledge and understanding of the research principles, methods, and techniques applicable to the chosen fields of learning or professional practice, • procedural knowledge required for performing and accomplishing complex and specialized professional tasks relating to teaching, and research and development.
Skills required to perform and accomplish tasks	The graduates should be able to demonstrate the acquisition of: • advanced cognitive and technical skills required for performing and accomplishing complex tasks related to the chosen fields of learning, • advanced cognitive and technical skills required for evaluating research findings and designing and conducting relevant research that contributes to the generation of new knowledge, • specialized cognitive and technical skills relating to a body of knowledge and practice to analyze and synthesize complex information and problems.
Application of knowledge and skills	Graduates should demonstrate the ability to: • apply the acquired advanced theoretical and/or technical knowledge about a specialized field of enquiry or professional practice and a range of cognitive and practical skills to identify and analyze problems and issues, including reallife problems, associated with the chosen fields of learning, • apply advanced knowledge relating to research methods to carryout research and investigations to formulate evidence based solutions to complex and unpredictable problems.
Generic learning outcomes	The graduates should be able to demonstrate the ability to: • listen carefully, read texts and research papers analytically and present complex information in a clear and concise manner to different groups/audiences, • communicate, in a well structured manner, technical information and explanations, and the findings/ results of the research studies undertaken in the chosen field of study, • present in a concise manner one's views on the relevance and applications of the findings of recent research and evaluation studies in the context of emerging developments and issues, • meet one's own learning needs relating to the chosen fields of learning, work/vocation, and an area of professional practice, • pursue self-paced and self- directed learning to upgrade knowledge and skills, including research-related skills, required to pursue higher level of education and research, • problematize, synthesize and articulate issues and design research proposals, • define problems, formulate appropriate and relevant research questions, formulate hypotheses, test hypotheses using quantitative and qualitative data, establish hypotheses, make inference based on the analysis and interpretation of data, and predict cause-and- effect relationships, • develop appropriate tools for data collection for research,

	• use appropriate statistical and other analytical tools and techniques for analysis of data collected for research and evaluation studies, • plan, execute and report the results of an investigation, • follow basic research ethics and skills and practice ethics in the field/ in one's own research work, • make judgements and take decisions regarding the adoption of approaches to solving problems, including real-life problems, based on the analysis and evaluation of information and empirical evidence collected, • make judgement across a range of functions requiring the exercise of full responsibility and accountability for personal and/ or group actions to generate solutions to specific problems associated with the chosen fields/subfields of study, work, or professional practice.
Constitutional, humanistic, ethical and moral values	The graduates should be able to demonstrate the ability to: • embrace and practice constitutional, humanistic, ethical and moral values in one's life, • adopt objective and unbiased actions in all aspects of work related to the chosen fields/subfields of study and professional practice, • participate in actions to address environmental protection and sustainable development issues, • support relevant ethical and moral issues by formulating and presenting coherent arguments, • follow ethical principles and practices in all aspects of research and development, including inducements for enrolling participants, avoiding unethical practices such as fabrication, falsification or misrepresentation of data or committing plagiarism.
Employment ready skills, and entrepreneurship skills and mindset	The graduates should be able to demonstrate the acquisition of knowledge and essential skills set required for: • adapting to the future of work and responding to the demands of the fast pace of technological developments and innovations that drive shift in employers' demands for skills, particularly with respect to transition towards more technology-assisted work involving the creation of new forms of work and rapidly changing work and production processes, • exercising full personal responsibility for output of own work as well as for group/ team outputs and for managing work that are complex and unpredictable requiring new strategic approaches.