



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

NOTIFICATION

No. Acad/175.

Date : 30th June, 2014

To,

The Principal
of all the affiliated Science Colleges
of Rashtrasant Tukadoji Maharaj
Nagpur University, Nagpur

Subject:- Direction No. 19 of 2014.

Sir/Madam,

I am forwarding herewith a copy of the Direction No. 19 of 2014 issued by the Hon'ble Vice-Chancellor under Section 14(8) of Maharashtra Universities Act, 1994 **'Direction governing examination leading to the Master of Science in Forensic Science (Credit Based Semester Pattern)'** and Examination Scheme to be implemented from Academic Session 2014-2015.

You are requested to kindly bring it to the notice of all teachers and students of your college.

Thanking you,

Yours faithfully,

Encl: As above.

Sd/-
(Dr. A.V. Gomashe)
Registrar,
Rashtrasant Tukadoji Maharaj
Nagpur University, Nagpur.

No. Acad/175

Nagpur dated the 30th June, 2014

Copy for information and necessary action along with the Direction and Scheme as mentioned above to :-

- 1) The Dean, Faculty of Science, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 2) The Chairman, Ad-hoc Board of Studies in Forensic Science, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 3) The Controller of Examinations, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 4) The Director, B.C.U.D., Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 5) The Deputy Registrar (Examinations) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 6) The Deputy Registrar (Coll. Sec.) Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 7) The Asstt. Registrar (Prof. Exam.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 8) The Asstt. Registrar (Conf.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur.
- 9) The Asstt. Registrar (Exams & Enquiry.), Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
- 10) The Asstt. Registrar University's Sub-Centre at Gadchiroli, R.T.M. Nagpur University, Nagpur.
- 11) The Officer-in-Charge, Publication Section, R.T.M. Nagpur University, Nagpur.
- 12) The Asstt. Registrar, Ordinance Section, R.T.M. Nagpur University, Nagpur
- 13) The P. A. to the Hon'ble Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 14) The P. A. to the Hon'ble Pro-Vice-Chancellor, R.T.M. Nagpur University, Nagpur
- 15) The P. A. to the Registrar, R.T.M. Nagpur University, Nagpur
- 16) Mrs. Veena Prakash, Information Scientist, R.T.M. Nagpur University, Nagpur

Sd/-

(Puran Meshram)
Deputy Registrar(Acad.)
Rashtrasant Tukadoji Maharaj
Nagpur University, Nagpur.



**RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY,
NAGPUR**

FACULTY OF SCIENCE

DIRECTION NO 19 OF 2014

**DIRECTION GOVERNING THE EXAMINATION LEADING TO THE
DEGREE OF foKku ikjaxr MASTER OF SCIENCE IN FORENSIC
SCIENCE**

(CREDIT BASED SEMESTER PATTERN)

(FACULTY OF SCIENCE)

(Issued under Section 14(8) of the Maharashtra Universities Act, 1994)

Whereas, the Maharashtra Universities Act No. 1994 has come into force with effect from 22nd July, 1994, and further amended by Maharashtra Universities (Amendment and Continuance) Act, 2003, hereinafter referred as 'Act' has come into force from 8th August 2003,

AND

Whereas, the Higher & Technical Education Department, Government Resolution No. NGC-2011/ (20/11) M. Shi-4 dated 22nd July 2011, issued the order to start **M.Sc. Forensic Science (Two years Post Graduate Degree Course)** from the academic session 2014-15,

AND

Whereas, the University Grants Commission, New Delhi, vide letter no: D. O. No. F. 1-2/2008 (XI Plan) dated 31st January 2008, regarding new initiatives under the XI Plan- Academic reforms in the University has suggested for improving quality of higher education and to initiate the Academic Reforms at the earliest,

AND

Whereas, the respective Ad-hoc Board of Studies in Forensic Science, in its meeting held on 18-05-2013 vide item No. 1 have approved the syllabi and Scheme of Examination for **M.Sc. Forensic Science** and recommended for starting of the credit based semester pattern in the Faculty of Science from the academic session 2014-2015,

AND

WHEREAS, the Dean, Faculty of Science has consented to the syllabi and the scheme of examination for the award of M.Sc. Degree in Forensic Science,

AND

Whereas, the faculty of Science in its meeting held on 9.7.2013, has considered, accepted and recommended to Academic Council, for M.Sc. Forensic Science along with draft direction and other details.

AND

Whereas, the Dean, Faculty of Science has consented to the draft direction and the scheme of examination for the award of M.Sc. Forensic Science degree in Science on behalf of Faculty of Science.

AND

Whereas, the Academic Council in its meeting held on 23.12.2013 vide item No. 56, has considered, accepted and recommended to Management Council, for M.Sc. Forensic Science degree in Science along with draft direction and other details.

AND

Whereas, the Management Council in its meeting held on 6.3.2014 vide item No. 65, has considered, accepted the draft direction and other details.

AND

Whereas, the new draft direction and scheme of examination as per semester pattern is to be implemented from the Academic Session 2014-15 for M.Sc. Forensic Science degree course which is to be regulated by this direction and as such there is no existence and framing of an Ordinance for the above examination is a time consuming process.

AND

Whereas, the framing of an ordinance as required under provision of the Act is a time consuming process.

Now, therefore, I, Anoop Kumar, the Vice Chancellor of Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in exercise of the powers conferred upon me in under section 14(8) of the Maharashtra University Act of 1994 do hereby issue the following direction:

1. Title of the Direction:

This direction may be called "**Direction Governing the Examinations leading to Degree of**

foKku ikjaxr Master of Science in Forensic Science (Credit Based Semester Pattern) in the Faculty of Science".

2. The direction shall come into force from the date of its issue by Hon'ble Vice Chancellor and shall remain in force till the relevant ordinance comes into being in accordance with the provisions of the Act.

3. Nature of the Course:

The duration of the M.Sc. course shall be of two academic years consisting of four semesters with University examinations at the end of each semester namely:

- i. The following shall be the examinations leading to Degree of Master of Science in Forensic Science:
 - a. **foKku ikjaxr** [M.Sc. Semester-I Examination]
 - b. **foKku ikjaxr** [M.Sc. Semester-II Examination]
 - c. **foKku ikjaxr** [M.Sc. Semester-III Examination]
 - d. **foKku ikjaxr** [M.Sc. Semester-IV Examination]

- ii. The period of Academic Session shall be such as may be notified by the University.

4. Conduct of Examination:

The examinations specified in preceding section 3 leading to **M. Sc. Forensic Science (Semesters I-IV)** shall be held twice a year at such places and on such dates as may be decided by the University.

The main examination of Semesters I, III shall be held in winter whereas the examination of Semesters II & IV shall be held in summer. The supplementary examination of Semesters I & III shall be held in summer whereas the supplementary examination of Semesters II & IV shall be held in winter.

5. Eligibility Criteria:

Subject to their compliance with the provisions of this direction and of other ordinances in force from time to time, the following applicant candidates shall be eligible for the admission to Master of Science in Forensic Science and examinations thereof,

A. For admission to M. Sc. Semester I in Forensic Science, a candidate shall have offered B.Sc. Forensic Science (Degree with all optional papers related to different disciplines of Forensic Science). Students with B.Sc. degree possessing Forensic Science as an optional subject will not be eligible for admission to M.Sc. Forensic Science.

Intake Capacity: - 20 Seats will be allotted as per following Criteria (Reservation as per State Government Norms)

- I.** 18 seats shall be reserved for the students holding a B.Sc. Forensic Science degree from Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur
 - II.** One Seat shall be reserved for the candidate holding B.Sc. Forensic Science degree from University of Maharashtra state other than RTM Nagpur University, Nagpur.
 - III.** One Seat shall be reserved for the candidate holding B.Sc. Forensic Science degree from University other than Maharashtra state and RTM Nagpur University, Nagpur.
 - IV.** If any seat remains vacant from criteria II, then it will be allotted to candidate belonging to criteria I.
 - V.** Similarly, if seat in criteria III remains vacant, it will be allotted to candidate belonging to criteria II.
 - VI.** If the candidate is not available from both the criteria II and III, then seat will be allotted to criteria I.
- B.** Candidates shall have passed any one of the above examinations from Rashtrasant Tukadoji Maharaj Nagpur University or any other statutory University of India or abroad, recognized by the UGC or any other concerned apex regulatory authority/ body of India.

6. a) foKku ikjaxr [M.Sc. Semester-I Examination]

Students who have fulfilled the eligibility criteria as mentioned in Section 5 and have been admitted to this course in Semester I.

b) foKku ikjaxr [M.Sc. Semester-II Examination]

Students who have been admitted to this course in semester II.

c) foKku ikjaxr [M.Sc. Semester-III Examination]

Students who have been admitted to this course in semester III.

d) foKku ikjaxr [M.Sc. Semester-IV Examination]

i. Students who have been admitted to this course in semester IV.

- ii. Every student shall submit three copies of the project report (typed and properly bound) for the Fourth Semester to the University at least one month prior to the commencement of the final practical examination through the Head of the Department/ Centre / the Principal of the college concerned along with the certificate signed by the supervisor and declaration by the candidate

towards original work which is not submitted to any university or organization for award of the degree. The scheme/ guidelines for the students and supervisors regarding Project Work Report are given in **Appendix-II**.

(Note: Subject to the Rules of ATKT as mentioned in para 7 (D) of this direction)

7. Standard of Passing and performance grading:

(A) Passing standard:

Grades Ten point scale, Passing with Minimum grade ‘E’, or ‘D’ or ‘C’ or ‘B’ or ‘A’ or ‘O’ in 10 point scale.

“Pass” means minimum grade ‘E’ or above in 10 point scale

“Fail” means grade ‘F’ in 10 point scale

Minimum marks for passing theory and practical examination:

The learner should secure 40% marks in theory, 40% marks in practical of each paper and 40% marks in seminar separately for every semester.

(B) Performance grading:

The PERFORMANCE GRADING of a student shall be based on the TEN point ranking system as under:

Score Marks in %	Grade	Grade Point Average (Out of 10)	CGPA	Final Grade	Equivalent Class/ Division
100 to 85	O: Outstanding	10	9.00 to 10.00	O	First Class (Outstanding)
84 to 75	A: Very Good	09	8.00 to 8.99	A	First Class (Excellent)
74 to 65	B: Good	08	7.00 to 7.99	B	First Class (Distinction)
64 to 55	C: Average	07	6.00 to 6.99	C	First Class
54 to 45	D: Satisfactory	06	5.00 to 5.99	D	Second Class
44 to 40	E: Pass	05	4.00 to 4.99	E	Pass Class
Below 40	F(Fail/ Unsatisfactory)	00 or Fail	Below 4.00	F	FAIL

The performance grading shall be based on the aggregate performance and Semester End Examination.

(C) Carry forward of marks, in case, student fails in one or more subjects/courses:

- i) The passing heads for practical examination and theory examination will be separate. The candidate, who will pass in any either (practical examination or theory) case, his/her marks will be carry forward.
- ii) A student who FAILS shall reappear for the concerned examinations.

(D) The ATKT rules for admission for the **iva&aana paarMgata M.Sc. Forensic Science Course (Theory and Practical and Seminar as separate passing head) shall be as given in the following table:**

Admission to Semester	Candidate should have passed in all the subjects of the following examination of R.T.M. Nagpur University	Candidate should have passed at least two third of the passing heads of the following examinations
Semester I	As provided in the para 5 of the	-----

	direction	
Semester II	-----	-----
Semester III	-----	Semester I and II taken together
Semester IV	-----	Semester I, II and III taken together

8. Fee Structure:

- I. Tuition Fee: The tuition fee for the said course will be decided by the State Government for the Government Institutions whereas the fees will be decided by the University for the affiliated colleges.
- II. Examination Fee: The examination fee for the said course will be decided by the University.

9. Syllabus and Medium of Instruction / Examination:

The syllabus for this course shall be as prescribed by the Board of Studies in terms of Semester Pattern. Scope of the subject of M.Sc. in Forensic Science Semesters I-IV shall be as indicated in the respective syllabi in force from time to time.

The medium of instructions and writing of examination shall be in English only.

- 10. (a)** Without prejudice to other provisions of Ordinance no. 6 relating to the examination in general, provisions of Para 5, 8, 9, 10, 26, 31 and 32 of the said ordinance shall apply to every student admitted to this course.

(b) The students admitted to this course shall be governed by general Ordinances/Directions of the University which are applicable to all the regular or ex-students. These ordinances include complete as well as relevant provision of Ordinance No. 2, 6, 7-A, 9,10, 19, 109, Ordinance No. 30 of 2006 (amended Ordinance No. 4 of 2006), Direction 9 of 2008, Direction No.5 of 2004 wherever applicable accordingly And Direction/Ordinance of ATKT as well as reassessment/ provisional admission as issued from time to time.

- 11.** The number of papers and maximum marks assigned to each paper and minimum marks/grade, an examinee must obtain in order to pass the examination shall be as prescribed in appendix 1, 2, 3, 4 and 5 appended with this direction.

- 12.** The examinee at each of the examination shall have option of not being declared successful at the examination in case he/she does not secure a minimum of grade equivalent to 55% marks at the examination. This option will have to be exercised every time the application is submitted to any of the examinations. Once this option is exercised, the option shall be binding on the examinee and it shall not be evoked in under any circumstances.

- 13.** The classification of the examinee successful at the semester and examinations and at the end of final semester examination shall be as per the rules and regulations of credit based semester pattern as prescribed in appendix, appended with this direction.

- 14.** The provisions of direction no. 3 of 2007 for the award of grace marks for passing an examination, securing higher grade in subject(s) as updated from time to time shall apply to the examination under this direction.

- 15.** The names of the successful examinee passing the examination as a whole in the minimum prescribed period and obtaining prescribed number of places securing the grades equivalent to first and second division shall be arranged in order of merit as provided in ordinance 6 relating to examination in general.

16. No candidate shall be admitted to an examination under this direction, if he/she has already passed the same examination of this university or of any other university.
17. Examinee successful at the final examination shall on payment of the prescribed fees, will be entitled for the award of the degree in the prescribed form signed by the Vice Chancellor.
18. This course is based on credit based semester pattern and therefore, it will be also regulated by guidelines and regulation given in appendices which are part of this direction.
19. **Scheme of Examination:**
The Scheme of Examination shall be as per **Appendix: 1** (Semester pattern). However, the Scheme of Examination reflects the basic structure of Theory, Practical and Project Work* (only in Semester IV). The details/title of the theory papers can be suitably modified in future considering the need of the subject without disturbing the main structure.
20. **Other Rules:**
- i. Provision of Ordinance No. 3 of 2007 relating to the award of grace marks for passing the examination, securing higher division/class and for securing distinction in subject(s) and Ordinance No. 10 relating to the exemptions and compartments shall apply to the examination under this Ordinance.
 - ii. Notwithstanding anything to the contrary in this ordinance no person shall be admitted to this examination, if he/she has already passed this examination or an equivalent examination of any other statutory University.
21. **Award of Degree:**
A successful examinee shall be awarded Degree in prescribed form signed by the Vice-Chancellor of the University.

Sd/-

Nagpur

(**Anoop Kumar**)

Date : 10.6.2014

Vice-Chancellor

Appendix I: Semester I

Scheme of Teaching and Examination under credit based semester pattern for M. Sc. Forensic Science Course

S.No.	Semester	Theory/ Practical/ Paper	Teaching Scheme (Hrs/week)			Credits	Examination Scheme					
			Theory	Practical	Total		Duration (Hrs)	Max. Marks		Total Marks	Minimum Passing marks	
								External Marks	Internal Marks		Th	Pr
1	I	MFS-101: Paper I Criminology	3		3	2	3	50		50	20	
2	I	MFS-102: Paper II Advanced Forensic Science	3		3	2	3	50		50	20	
3	I	MFS-103 Paper III Forensic Biology and Serology	3		3	2	3	50		50	20	
4	I	MFS-104: Paper IV Forensic Chemistry and Toxicology	3		3	2	3	50		50	20	
5	I	MFS-105: Paper V Forensic Physics and Ballistics	3		3	2	3	50		50	20	
6	I	MFS-106: Paper VI Digital and Cyber Forensics	3		3	2	3	50		50	20	
7	I	MFS-107: Paper VI I Forensic and Correctional Psychology I	3		3	2	3	50		50	20	
8	I	MFS-108: Paper VIII Communication Skills and Scientific Report Writing I	3		3	2	3	50		50	20	
9	I	MFS-109 Practical-I		4.5	4.5	2	3-8*	40	10	50		20
	I	MFS-110 Practical-II		4.5	4.5	2	3-8*	40	10	50		20
10	I	MFS-111 Practical-III		4.5	4.5	2	3-8*	40	10	50		20
11	I	MFS-112 Practical-IV		4.5	4.5	2	3-8*	40	10	50		20
17	I	MFS: 113 SEMINAR		2	2	1			25	25		10
18		TOTAL	24	20	44	25				625	160	90

Note: Th = Theory; Pr = Practical/lab, * = If required, for two days. Applicable to all semesters (I-IV)

Appendix I: Semester II

Scheme of Teaching and Examination under credit based semester pattern for M. Sc. Forensic Science Course

S.No.	Semester	Theory/ Practical/ Paper	Teaching Scheme (Hrs/week)			Credits	Examination Scheme					
			Theory	Practical	Total		Duration (Hrs)	Max. Marks		Total Marks	Minimum Passing marks	
								External Marks	Internal Marks		Th	Pr
1	II	MFS-201:Paper IX Criminology	3		3	2	3	50		50	20	
2	II	MFS-202:Paper X Advanced Forensic Science	3		3	2	3	50		50	20	
3	II	MFS-203:Paper XI Forensic Biology and Serology	3		3	2	3	50		50	20	
4	II	MFS-204:Paper XII Forensic Chemistry and Toxicology	3		3	2	3	50		50	20	
5	II	MFS-205:Paper XIII Forensic Physics and Ballistics	3		3	2	3	50		50	20	
6	II	MFS-206:Paper XIV Digital and Cyber Forensics	3		3	2	3	50		50	20	
7	II	MFS-207:Paper XV Forensic and Correctional Psychology	3		3	2	3	50		50	20	
8	II	MFS-208:Paper XVI Communication Skills and Scientific Report Writing	3		3	2	3	50		50	20	
9	II	MFS-209 Practical V		4.5	4.5	2	3-8*	40	10	50		20
10	II	MFS-210 Practical VI		4.5	4.5	2	3-8*	40	10	50		20
11	II	MFS-211 Practical VII		4.5	4.5	2	3-8*	40	10	50		20
		MFS-212 Practical VIII		4.5	4.5	2	3-8*	40	10	50		20
17	II	MFS-213 SEMINAR		2	2	1			25	25		10
18		TOTAL	24	20	44	25				625	160	90

Appendix I: Semester III

Scheme of Teaching and Examination under credit based semester pattern for M. Sc. Forensic Science Course

S.No.	Semester	Theory/ Practical/ Paper	Teaching Scheme (Hrs/week)			Credits	Examination Scheme					
			Theory	Practical	Total		Duration (Hrs)	Max. Marks		Total Marks	Minimum Passing marks	
								Externa l Marks	Intern al Mark s		Th	Pr
1	III	*MFS-301: Paper XVII Instrumentation, Quality Management, Research Methodology and Statistics	4		4	4	3	100		100	40	
2	III	*MFS-302 : Paper XVIII (Special I) ❖ Questioned Document Analysis/ ❖ Advanced Forensic Toxicology/ ❖ Forensic Serology ❖ Operating System and Web Security	Each 4 = 8		8	Each 3 = 6	3	Each 75=150		150	60	
3	III	*MFS-303: Paper XIX (Special II) ❖ Advanced Fingerprint Development methods/ ❖ Advanced Forensic Chemistry/ ❖ Forensic Biology ❖ Advanced Computer Network and Network Security	Each 4 = 8		8	Each 3 = 6	3	Each 75=150		150	60	
12	III	*MFS-304: (Any Two) Practical IX Practical X Practical XI Practical XII		Each 10=20	20	Each 4 = 8	Each 3-8*	Each 80	Each 20	200		Each 40 = 80
17	III	MFS-305: SEMINAR	2	2	4	1			25	25		10
18		TOTAL	22	22	44	25				625	160	90

***Note: Candidate should select five theory papers and two practical as per the following scheme:**

1. MFS 301 is compulsory.
2. There are following four Specializations.
 - i. Specialization I: Questioned Documents & Fingerprint
 - ii. Specialization II: Forensic Chemistry & Toxicology
 - iii. Specialization III: Forensic Biology & Serology
 - iv. Specialization-IV: Cyber Security and Cyber Forensic.
3. Candidate should select any two specializations out of four as above mentioned and corresponding two theory papers from group of Special I and two theory papers from group of Special II
4. Candidate should select any two practical related specializations.

Appendix I: Semester IV

Scheme of Teaching and Examination under credit based semester pattern for M. Sc. Forensic Science Course
In semester IV, candidate should select any one specialization out of two which has been already opted in semester III.

S.No.	Semester	Theory/ Practical/ Paper	Teaching Scheme (Hrs/week)			Credits	Examination Scheme					
			Theory	Practical	Total		Duration (Hrs)	Max. Marks		Total Marks	Minimum Passing marks	
								External Marks	Internal Marks		Th	Pr
1	IV	MFS-401: Paper XX Instrumentation, Quality Management, Research Methodology and Statistics	4		4	4	3	100		100	40	
2	IV	MFS-402 Paper XXI (Special Paper I) ❖ Forgery and Its Forensic Detection ❖ Advanced Forensic Toxicology ❖ Forensic Anthropology, Odontology and Forensic Pathology ❖ Cyber Security, Cyber Forensic Mobile and Cyber Forensics	4		4	3	3	75		75	30	
3	IV	MFS-403 Paper XXII (Special Paper II) ❖ Automated Fingerprint Identification System ❖ Advanced Forensic Chemistry ❖ DNA Fingerprint and Interpretation ❖ Ethical Hacking and Recovery Forensic	4		4	3	3	75		75	30	
4	IV	MFS-404) Paper XXIII(Special Paper III) ❖ Forensic Linguistics ❖ Forensic Pharmacology ❖ Microbial Forensics and Bioinformatics ❖ Digital Image processing	4		4	3	3	75		75	30	
5	IV	MFS-405) Paper XXIV(Special Paper IV) ❖ Forensic Photography ❖ Forensic Analysis of Drugs ❖ Wildlife and Environmental Forensic ❖ Biometrics	4		4	3	3	75		75	30	
12	IV	MFS-406 Practical :XIII Practical :XIV Practical :XV Practical :XVI		12	12	4	3-8*	80	20	100		40
13	IV	MFS-407 Project Work (Specialization)		10	10	4	3-8*	80	20	100		40
17	IV	MFS-408 SEMINAR		2	2	1			25	25		10
18		TOTAL	20	24	44	25				625	160	90

Note: Th = Theory; Pr = Practical/lab, * = If required, for two days.

1. In each semester student will have to give seminar on any topic relevant to the syllabus encompassing the recent trends and development in that field. The topic of the seminar will be decided at the beginning of each semester in consultation with the supervising teachers. The student has to deliver the seminar which will be followed by discussion. The seminar will be open to all the teachers of the department, invitees, and students.
2. The student will have to carry out the research based project work in lieu of practical in the fourth semester in the department or depending on the availability of placement; he/she will be attached to any of the national/regional/private research institute/organization. The student in consultation with supervisor will finalize the topic of the project work at the beginning of the third semester.
3. Each theory paper is supposed to cover minimum 45 clock hours (15 clock hours per unit) of teaching and 360 clock hours in semesters I and II for all the eight papers. Whereas 72 clock hours (18 clock hours per unit) of teaching and 360 clock hours in semesters III and IV for all the five papers
4. One credit course of theory will be of 25 marks.
5. One credit course of practical will consist of laboratory exercise of 25 marks.
6. One credit course of seminar will consist of exercise of 25 marks.

Appendix-II

Project Work Scheme / Guidelines for the Students, Supervisors and Examiners

Every student is required to carry out **Experimental / Field Based Project Work** (this is in lieu of practical II of semester IV) on a related research topic of the subject /course. It must be an original work and must indicate some degree of experimental work. On the basis of this work, student must submit the Project Report (typed and properly bound) in two copies at least one month prior to commencement of the final Practical/lab Examination of Semester IV. The project report shall comprise of Introduction, Material and Methods, Results, Discussion, Summary, Conclusions and, References along with the declaration by the candidate that the work is original and not submitted to any University or Organization for award of the degree and certified by the supervisor and forwarded through Head/Course-coordinator/Director of the Department/Centre or the Principal of the College

The supervisors for the Experimental Project Work shall be expert from the relevant subject.

OR

A person selected by duly constituted Selection Committee of R.T.M. Nagpur University, approved by the University and appointed as full time regular teacher at UG level having M. Phil degree with 10 years teaching experience at UG level, or a person who has Ph.D. Degree, with 5 years teaching experience in relevant subject.

OR

Scientists of National Laboratories/ Regional Research Laboratories who are approved by dint of their appointments in such facilities by the Union Government / the State Government / Nagpur University / Other Universities recognized by UGC with at least in the Grade Pay of Rs.8000/-.

The topic for the project work will be assigned to the student by supervisor at the beginning of third semester. The topic will be forwarded to the controller of examination by the head of the department. The Project Work will carry total 100 marks out of which weightage of 80 marks will be evaluated by both external and internal examiner in the respective Department / Center / Affiliated College. The examiners will evaluate the Experimental Project Work taking into account the 1) Coverage of subject matter, 2) Arrangement and presentation, 3) References and 4) Critical application and original experimental contribution of the candidate.

For written Project work : 80 Marks

For Viva-Voce : 20 Marks

Total : 100 Marks

Appendix-III

Seminar

Guidelines for Students, Supervisors and Examiners

The student will have to deliver seminar on any topic relevant to the syllabus with emphasis in the recent trends in that field. The topic of the seminar will be decided at the beginning of the each semester in consultation with the supervisory teacher. Head of the Department will distribute the students among the faculty members. The student has to deliver the seminar which will be followed by discussion. The seminar will be open to all the teachers of the department, invitees and students. The students should submit the seminar report typed and properly bound in two copies to the head of the department. The report shall be evaluated by the concerned supervisor and head of the department. The average marks shall be considered for the final result. The marks of the seminar shall be forwarded to the university within due period through Head of the Department. The record of the seminar should be preserved till the declaration of the final result.

Appendix-IV

General Rules and Regulations

A) Pattern of Question Paper

For Semester I and II

1. There will be three units in each paper.
2. Question paper will consist of five questions.
3. Three questions will be on three units with internal choice (One question on each unit).
4. Fourth and Fifth questions will be compulsory with questions from each of the three units having equal weight age and there will be no internal choice.
5. Maximum marks of each paper will be 50.
6. Each paper will be of 3 hours duration.
7. Practical/laboratory examination of 50 marks. Distribution of marks shall be 10 internal and 40 external.
8. Minimum passing marks in each head (theory, practical & internal assessment, seminar) will be 40%.

Semester III and IV

1. There will be four units in each paper.
2. Question paper will consist of five questions.
3. Four questions will be on four units with internal choice (One question on each unit).
4. Fifth question will be compulsory with questions from each of the four units having equal weight age and there will be no internal choice.
5. Maximum marks of each paper will be 100 for Compulsory paper and 75 marks for four theory papers each (Two special papers from Group Special I and Two special papers from Group Special II).
6. Each paper will be of 3 hours duration.
7. Projects shall be evaluated by both internal and external examiners.
8. Practical/laboratory examination of 100 marks. Distribution of marks shall be 20 internal and 80 external.
9. Minimum passing marks in each head (theory, practical & internal assessment, seminar) will be 40%.

B) Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA)

1. On clearing a paper, based on the cumulative score (out of 100) in that paper, a student will be given **Grade Point Average (GPA)** (Maximum of 10, and minimum of 4) for that paper on the following basis.

Score Marks in %	Score Marks in %	Grade	Grade Point Average (Out of 10)	CGPA	Final Grade	Equivalent Class/ Division
100 to 85	100 to 75	O: Outstanding	10	9.00 to 10.00	O	First Class (Outstanding)
84 to 75	74 to 65	A: Very Good	09	8.00 to 8.99	A	First Class (Excellent)
74 to 65	64 to 55	B: Good	08	7.00 to 7.99	B	First Class (Distinction)
64 to 55	54.99 to 50	C: Average	07	6.00 to 6.99	C	First Class
54 to 45	49.99 to 45	D: Satisfactory	06	5.00 to 5.99	D	Second Class
44 to 40	44.99 to 40	E: Pass	05	4.00 to 4.99	E	Pass Class
Below 40	Below 40	F(Fail/ Unsatisfactory)	00 or Fail	Below 4.00	F	FAIL

The description for each of the grades is as follows:

Grade Proposed Norms

O: Outstanding: Excellent analysis of the topic, (85% and above)

Accurate knowledge of the primary material, wide range of reading, logical development of ideas, originality in approaching the subject, neat and systematic organization of content, elegant and lucid style;

A: Very Good: Excellent analysis of the topic (75 to 84% and above)

Accurate knowledge of the primary material, acquaintance with seminal publications, logical development of ideas, neat and systematic organization of content, effective and clear expression;

B: Good: Good analysis and treatment of the topic (65 to 74%)

Basic knowledge of the primary material, logical development of ideas, neat and systematic organization of content, effective and clear expression;

C: Average: Some important points covered (55 to 64%)

Basic knowledge of the primary material, logical development of ideas, neat and systematic organization of content, good language or expression;

D: Satisfactory: Some points discussed (45 to 54.99%)

Basic knowledge of the primary material, some organization, acceptable language or expression;

E: Pass: Any two of the above (40 to 44.99%)

F: Fail: None of the above (Below 40%)

2. On clearing all the papers in a semester, a student will be allotted a **Semester Grade Point Average (SGPA)** for that particular semester. As the pattern given above does not have differential weights for papers, the SGPA of a student for a particular semester will be the average of the GPA's for all the papers.

3. A student will be allotted a **Cumulative Grade Point Average (CGPA)** after clearing all the four semesters. Again as there is no differential weight system for semesters, the CGPA of a student will be the average of the four SGPA's of that student.

The CGPA can be converted to the usual / conventional divisions in the following way.

CGPA	Final Grade	Equivalent class/division
9.00 to 10.00	O	First class (outstanding)
8.00 to 8.99	A	First class (excellent)
7.00 to 7.99	B	First class with distinction
6.00 to 6.99	C	First class
5.00 to 5.99	D	Second class
4.00 to 4.99	E	Pass class
Below 4.00	F	Fail

- a. A student failed to score minimum 40% marks in each head of passing and in aggregate shall be given F grade.
- b. Student with F grade in a course would be granted credit for that course but not the grade for that course.
- c. Grade points earned in each paper shall be calculated as – Grade points obtained (vide above table) x Credits for the paper.
- d. The formula for GPA will be based on Weighted Average. The final GPA will not be printed unless a student passes courses equivalent to minimum 100 Credits.
4. While declaring the result, the existing relevant ordinances are applicable. For verification and revaluation existing rules will be applicable.
5. The candidate may take all the examinations as per the provisions of ATKT simultaneously but his result of final semester shall not be declared unless he is declared successful at lower examinations.
6. If an examinee failed to pass the post graduate programme within five successive years (for four semesters degree) and within six successive years (for six semesters degree) from the date of his / her first admission to particular post graduate programme he/ she shall be declared as “Not Fit for the Course (NFC)” and he/ she will not be allowed to appear further for any previous examination of the course.
7. The computation of Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA) of an examinee shall be given below:
 - a. The marks will be given in all examinations which will include the college assessment marks, and the total marks for each Theory/ Practical shall be converted into Grades as per above table. SGPA shall be calculated based on Grade Points corresponding to Grade as given in above table and the credits allotted to respective Theory / Practical shown in the scheme for respective semester.
 - b. SGPA shall be computed for every semester and CGPA shall be computed only in IV semester (for four semester degree) and VI semester (for sixth semester degree).

The CGPA of IV / VI semester shall be calculated based on SGPA of all four semesters / six semesters as per following computation:

$$\text{SGPA} = \frac{C1 \times G1 + C2 \times G2 + \dots + Cn \times Gn}{C1 + C2 + \dots + Cn}$$

Where C1 = Credit of individual Theory / Practical

G1 = Corresponding Grade Point obtained in the Respective Theory/ Practical

$$\text{CGPA} = \frac{(\text{SGPA}) I \times (\text{Cr}) I + (\text{SGPA}) II \times (\text{Cr}) II + (\text{SGPA}) III \times (\text{Cr}) III + (\text{SGPA}) IV \times (\text{Cr}) IV}{(\text{Cr}) I + (\text{Cr}) II + (\text{Cr}) III + (\text{Cr}) IV}$$

Where, (SGPA) I = SGPA of I Semester; (Cr) I = Total Credits for I Semester;

(SGPA) II = SGPA of II Semester; (Cr) II = Total Credits for II Semester;

(SGPA) III = SGPA of III Semester; (Cr) III = Total Credits for III Semester;

(SGPA)IV = SGPA of IV Semester; (Cr) IV = Total Credits for IV Semester

CERTIFICATE

Name of the College/Institution:.....

Name of the Department:.....

This is to certify that this Practical Record contains the bonafide record of Practical Work of Shri/Kumari/Shrimati..... of Semester during the academic year..... The candidate has satisfactorily completed the work prescribed by University for the subject.....

Date: dd/mm/yyyy

Signature of Teacher-In-Charge

Place:.....

Signature of Head of Department