



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

*Established by Government of Central Provinces Education Department by Notification No. 513, dated the 1st of August, 1923 & presently a State University governed by Maharashtra Public Universities Act, 2016 (Mah. Act No VI of 2017)

(Academic Section)

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No. Acad/S/18/905

Dated: 4/12/2018

To,
The Principal,
of all Engineering & Technology Colleges
Affiliated to Rashtrasant Tukadoji Maharaj
Nagpur University Nagpur.

Subject:- Direction No 21 of 2018 and 22 of 2018.

(Direction Governing the Examinations leading to B.E., B.Tech., B.Arch.,M.Tech.,M.Arch.,M.Des. course along with the Syllabus & Scheme of Examination under the Faculty of Science and Technology)

Sir/Madam,


I am forwarding herewith a copy of the **Direction No 21 of 2018 and 22 of 2018** issued by the Hon'ble Vice-Chancellor under section 12(8) of Maharashtra Public University Act, 2016 governing the examination leading to Degree of B.E., B.Tech., B.Arch.,M.Tech.,M.Arch.,M.Des. course along with the Syllabus & Scheme of Examination under the Faculty of Science & Technology to be implemented from Academic Session 2018-19.

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

Thanking you,

Encl: As above

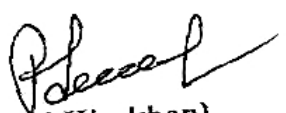
Yours Faithfully


(Dr. Niraj Khady)
Registrar

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

- 1) The Director, Board of Examinations & Evaluation
- 2) The Deputy Registrar (Pre Exam/Post Exam)
- 3) The Asstt. Registrar (Prof. Exam.)
- 4) The Asstt. Registrar (Conf.),
- 5) The Asstt. Registrar (Exams & Enquiry.)
- 6) The P. A. to the Hon'ble Vice-Chancellor
- 7) The P. A. to the Hon'ble Pro-Vice-Chancellor
- 8) The P. A. to the Registrar
- 9) The all Concerned Officers

Rashtrasant Tukadoji Maharaj
Nagpur University Nagpur


(Dr. Anil Hirekhan)
Deputy Registrar (Acad)

RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR
FACULTY OF SCIENCE AND TECHNOLOGY
DIRECTION NO. 22-OF 2018

**DIRECTION RELATING TO THE EXAMINATION LEADING TO THE DEGREE OF M.E.
/ M.TECH. / M.ARCH. / M.DES. (FULL TIME) SEMESTER PATTERN, (CHOICE BASED
CREDIT SYSTEM)**
(FACULTY OF SCIENCE & TECHNOLOGY)

(Issued under Section 12(8) of the Maharashtra Universities Act, 2016)

Whereas, Maharashtra Universities Act, 2016 (hereinafter referred to as Act) has come into force from 2016-17 and was amended from time to time,

AND

Whereas, the committee constituted by the Hon'ble Vice-Chancellor for the amendment of Direction No, 35 of 2016

AND

Whereas, the Dean of the Faculty of Science and Technology has considered, accepted and recommended to the Vice-Chancellor the recommendations of relevant Board of Studies in the Faculty of Science and Technology.

AND

Whereas, the committee has approved the amendment in the Direction No. 35 of 2016, in its meeting held on 6th October, 2018. This Direction shall come into force from the Academic Session 2019-2020 and on wards

AND

Whereas, ordinance making is a time consuming process, therefore, I, Dr. S. P. Kane, Vice Chancellor Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur in exercise of powers vested under Section 12(8) of the Act do hereby issue the following Direction.

1. This Direction may be called "Direction relating to examinations leading to the Degree of M.E. / M.TECH. / M.ARCH. / M.DES. (Full Time) Semester Pattern, (Choice Based Credit System)"
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. Subject to the compliance with the provisions of this Direction and any other Ordinance which is in force from time to time shall be applicable.
4. The M.E./M.Tech./M.Arch./M.Des.(Full Time) courses governed by this Direction & the corresponding Board of Studies shall be as detailed in the following Table-I.

Table I

Sr. No.	M.Tech. Specialization	Board of Studies	Scheme & Syllabus Appendix
1	Environmental Architecture	Architecture	A
2	Architecture Education	Architecture	B
3	CAD/CAM	Mechanical	C
4	CADMA	Mechanical	D
5	Chemical Engineering	Chemical Engineering	E
6	Computer Science Engineering	Computer Tech.	F
7	Electronic Communication	Electronic	G
8	Electronics	Electronic	H
9	Embedded System and Computing	Computer Tech.	I
10	Environmental Engg.	Civil	J
11	Food Technology	Chemical Technology	K

12	Heat Power Engg.	Mechanical	L
13	Industrial Design	Architecture	M
14	Industrial Drives and Control	Electrical	N
15	Industrial Engg.	Industrial Engg.	O
16	Integrated Power System	Electrical	P
17	Mechanical Engg. Design	Mechanical	Q
18	Oil Technology	Chemical Technology	R
19	Paint Technology	Chemical Technology	S
20	Petrochemical Technology	Chemical Technology	T
21	Power Electronics and Power System	Electrical	U
22	Software Systems	Computer Tech.	V
23	Structural Engg.	Civil	W
24	VLSI	Electronic	X
25	Wireless Communication and Computing	Computer Tech.	Y

5. The duration of the course shall be of two academic years consisting of four semesters for which the teaching sessions shall be held during regular college hours and the University examination shall be conducted at the end of each semester namely, the first, second, third and fourth semester.
6. The examinations shall be held as far as possible, in October – November and March – April every year at such places and on such dates as may be decided by the university.
7. Subject to the compliance with the provisions of this Direction, other relevant Directions & directions issued by AICTE and state of Maharashtra in force from time to time, the following persons shall be eligible for admission to the examinations,

a) M.E./M.Tech./M.Arch./M.Des. M.Des. (First Semester):-

i) The college shall get the list of admitted students scrutinized and approved from the university, strictly as per sanctioned quota and in accordance with the prescribed rules and regulations.

ii) The general eligibility qualification for admission to the respective post graduate course shall be as mentioned in Table – 2 given below:

Table 2

Sr. No.	Course M.E./ M.Tech./M.Arch./M.Des in	Eligibility Qualification B.E./ B.Tech. of this university or any other statutory university recognized equivalent thereto OR AMIE in OR Maharashtra Gov Equivalence GR.
1	Environmental Architecture	B.E. Civil/B.Arch.
2	Architecture Education	B.E. Civil/B.Arch.
3	CAD/CAM	Mechanical/ Production/ Industrial Engg./ Automobile/ Industrial
4	CADMA	Mechanical/ Production/ Industrial Engg./ Automobile/ Industrial/ Instrumentation
5	Chemical Engineering	B.E. or B.Tech in Chemical Engg./ B.E. or B.Tech in any of the Technology branches having qualified GATE and holding VALID GATE SCORE.
6	Computer Science Engineering	CT/CS/ IT/ MCA with 60%/M.Sc (Maths,Statistics)
7	Electronic Communication	Electronics/EDT/E&T /M.Sc Physics/ EC/ Biomedical Engg.
8	Electronics	Electronics/EDT/E&T /M.Sc Physics/ EC/ Biomedical Engg.
9	Embedded System and	CT/CS/CE/EDT/ IT/ MCA with 60%

	Computing	
10	Environmental Engg.	Civil/Chemical / M.Sc Chemistry
11	Food Technology	B.E. or B.Tech Food technology, Chemical Engg/ Chemical Technology
12	Heat Power Engg.	Mechanical Engg./ automobile/ Power Engg./ Production/ Industrial
13	Industrial Design	B.E. Civil/B.Arch.
14	Industrial Drives and Control	E & P/ Power Electronics/ Electrical
15	Industrial Engg.	Any branch of Engineering or Technology
16	Integrated Power System	E & P/ Power Electronics/ Electrical
17	Mechanical Engg. Design	Mechanical/ Production/ Automobile/ Power Engg./ Industrial Engineering
18	Oil Technology	B.E/B.Tech Oil technology, Chemical Engg/ Chemical Technology
19	Paint Technology	B.E/B.Tech Paint technology, Chemical Engg/ Chemical Technology
20	Petrochemical Technology	B.E/B.Tech Petrochemical technology, Chemical Engg/ Chemical Technology
21	Power Electronics and Power System	E & P/ Power Electronics/ Electrical
22	Software Systems	CT/CS/CE/EDT/IT/MCA with 60%
23	Structural Engg.	Civil Engg.
24	VLSI	Electronics/EDT/E&T/Biomedical Engg. / M.Sc Physics IEC
25	Wireless Communication and Computing	CT/CS/CE/EDT/IT/MCA with 60%

b.) The ATKT rules for admission for M.E./M.Tech./M.Arch./M.Des. M.Des (Theory and Practical as separate passing head) shall be as given in the following table-

Admission to Semester	Student should have appear for the examination	Student should have passed in all the subjects of the following examination of R.T.M. Nagpur.	Student should have passed at least 50% of the passing heads of the following examinations
Semester-I	---	As provided in the Table-2, of this Direction	-----
Semester- II	I Semester	-----	-----
Semester- III	II Semester	-----	Semester I and II taken together
Semester- IV	III Semester	-----	

8. The scope of the subject shall be as indicated in the respective syllabus, appended to this Direction.

9. The fees for each of the examinations shall be such as may be prescribed by the university from time to time.

10. The number of Papers, Practical, College Assessment, Project Work, Viva-Voce and Seminar, if any, maximum marks assigned to each of them, and the minimum marks an examinee must obtain in order to pass the examination shall be as indicated in the respective scheme appended to this Direction.

11. Student will have no restriction to take admission to II Semester.

12. For admission to Third Semester of M.E./M.Tech/M.Arch./M.Des. the student should have passed at least 50% of subject heads taking together I & II Semester.

13. In the case of unsuccessful examinees, the marks obtained in college assessment in the subjects in which they failed shall be carried forward. However the student has option to forego the College Assessment marks.

i) An examinee shall carry out his project work beginning from third semester up to the end of fourth semester under the supervision of :

a) A recognized Post-Graduate teacher in the college or institute.

OR

b) A person from industry or research institute possessing B.E., degree in the appropriate subject and has not less than 5 year experience in an industry or research institution in a responsible capacity.

OR

c) A person who is an approved teacher having experience of more than 3 years and post graduate degree in the related specialization or a person who is an approved teacher having Ph.D. degree in related field.

ii) The examinee shall submit his Project Work to the university through the Head of institute or college not later than 30th April / 30th October certified by the guide that the work was carried out satisfactorily under his guidance.

iii) The Examinations based on the Project report shall be conducted by the Board of examiners consisting of an external examiner appointed by the university and internal examiner. No faculty can guide more than 5 projects.

14. Provisions of Ordinance No. 3 of 2007 relating to the award of grace marks for passing an examination, securing higher division/class and for securing distinction in subject(s) as updated from time to time shall apply to the examination under this Direction.

15. However if a graduant wishes to improve his CGPA, he can reappear in the theory exam for improvement of his CGPA in a period of maximum two consecutive year after the declaration of result as per Ordinance No/1 of 2013

16. Examinees successful at the final examinations shall on payment of the prescribed fees shall be entitled for the award of the degree of M.E./M.Tech/M.Arch in the respective specialization & branch of Engineering in the prescribed form signed by the Vice-Chancellor.

Special Instructions:

1. a) A student having passed in a particular subject heads of passing of annual /semester pattern at any semester level shall be exempted from such subject heads at any level (lower/higher). Even if the subject is named with a new nomenclature having similar contents, shall also be exempted and such subject heads are/ shall be mentioned in the absorption scheme provided by the respective B.O.S. for relevant semester. In case of absorption, if required, proportionate marks/grades shall be awarded to absorbed subject heads.

b) If a new subject head is introduced in the CBCS Pattern, then the internal marks shall be awarded in proportion to the marks/grades earned by a student in the university/external examination in the same subject head.

c) In M.E./M.Tech./M.Arch./M.Des., minimum passing marks for the theory subject shall be 50% of total marks & 50% for practical of total marks in respective subject head.

2. Students failing under old semester pattern shall be provided maximum five consecutive examination to clear the subject(s), after which they shall be absorbed in the new scheme (CBCS).

Whereas, any student willing to opt for New Choice Based Credit System Scheme shall be absorbed as per the absorption schemes provided by relevant Board of Studies. However, student will have to appear for the examinations under CBCS Scheme for the matching subjects in which student has not cleared the subject in Semester Pattern Scheme/Annual Pattern.

3. i) The Scope of subject shall be as indicated in the syllabus.
ii) The medium of instruction and examination shall be English.

4. The provisions of Ordinance no.3 of 7, relating to "condonation of deficiency of marks" for passing an examination and of Ordinance no. 10 as amended up-to-date relating to "exemptions and compartments" shall apply to the examination under this Ordinance.

5. An Examinee who does not pass or who fails to present himself/herself for the examination(s) shall be eligible for reappearing in the same examination on payment of a fresh fee and as such other fees as may be prescribed from time to time. However, readmission to semester should be allowed only when a regular session is running for a particular semester.

6. As examinee at the fourth semester examination, who fails to submit his Project Work within the prescribed date or fails to present himself for the Project Work may, subject to other provisions of this Direction shall be readmitted to the examination at any subsequent date provided :-

- a) He/She pays the fee prescribed from time to time.
b) His/her application is received by the Board of Examinations not later than one month before the date of commencement of examination.

7. The following note will be applicable after implementation of CBCS pattern:

- i) The marks will be allotted in all examinations which will include college assessment marks and the total marks for each Theory / Practical shall be converted into Grades as per TableNo.4.
ii) SGPA shall be calculated based on Grade Point corresponding to percentage of marks as given in Table No. 3. And the Credit allotted to respective Theory/Practical shown in the scheme for respective semester.
iii) SGPA shall be computed for every semester as given below and CGPA shall be computed only in IV Semester

$$\text{SGPA} = \frac{C_1 \times G_1 + C_2 \times G_2 + \dots + C_n \times G_n}{C_1 + C_2 + \dots + C_n}$$

Where C1 = Credit of individual Theory / Practical

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

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

$$(Cr) I + (Cr) II + (Cr) III + (Cr) IV$$

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

Table No. 3

THEORY			PRACTICAL		
Grade	Percentage of Marks	Grade Points	Grade	Percentage of Marks	Grade Points
AA	Above 90-100	10	AA	Above 90-100	10
AB	Above 80 -90	9	AB	Above 80-90	9
BB	Above 70-80	8	BB	Above 70-80	8
BC	Above 60-70	7	BC	Above 60-70	7
CC	Above 50-60	6	CC	Above 50-60	6
CD	50	5	CD	50	5
FF	Below 50	Fail	FF	Below 50	Fail
ZZ	Absent in Examination	--	ZZ	Absent in Examination	--

As per All India Council for Technical Education (AICTE), CGPA may be converted into equivalent marks as mentioned below:

$$(CGPA - 0.75) \times 10 = \text{Equivalent Percentage, e.g.}$$

Table: 4

Grade Point	Equivalent Percentage
Less than 5.75	Fail
5.75	50%
6.25	55%
6.50	57.5%
6.75	60%
7.50	67.5%
7.75	70%
8.25	75%
9.25	85%
10.00	92.5%

• CGPA equal to 6.75 and above shall be considered as equivalent to First Class.

• CGPA less than 6.75 shall be considered as second class.

- CGPA equal to 8.25 and above shall be considered as equivalent to Distinction on Grade Card of VIII Semester as a footnote.
- CGPA less than 5.75 shall be considered as failed.

8. As soon as possible, after the examination, the Board of Examinations shall publish a list of successful examinees and the degree shall be awarded based on CGPA thereon for M.E./M.Tech./M.Arch./M.Des. Students.

9. The subjects under Foundation Course would be taught by Approved Ph.D. Supervisors only.

10. The subjects under Open electives would be taught by concerned subject teachers only. The paper setting, Moderation and Valuation work would be done by respective BOS who have proposed the said subjects.

10. The students who are passed in the subject Research Methodology (Foundation Course I) would be exempted for doing course work in Research Methodology for undergoing Ph.D. Program as per norms of UGC.

11. With the issuance of this Direction, The Direction No 35 of 2016 shall stand repealed.

Date: 20/11/2018

Nagpur



Dr. S.P.Kane
(Vice-Chancellor)