



RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY

***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)**

DIRECTION NO. 10 OF 2022

**ADMISSIONS AND EXAMINATIONS LEADING TO THE AWARD OF THE
DEGREE OF BACHELOR OF SCIENCE (DATA SCIENCE) (SEMESTER PATTERN)
DIRECTION, 2022**

Whereas, Maharashtra Public Universities Act 2016 (VI of 2017) (hereinafter Act VI of 2017) has come into force from 1st March 2017, repealing the Maharashtra Universities Act, 1994 and the has been made applicable to Rashtrasant Tukadoji Maharaj Nagpur University (herein after the University);

AND

Whereas, the University Grants Commission, New Delhi vide letter No.D.O.No.F 1-2/2008/(XI Plan), dated.31 Jan.2008 regarding new initiatives under the XIth 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 BOARD OF STUDIES FOR INTER-DISCIPLINARY PROGRAMME IN SCIENCE (Artificial Intelligence/Data Science/Finance/Cyber Security etc.)in its meeting held on 11/10/2021 prepared the syllabi and scheme of examination for the B.Sc.(D.S) degree programme and recommended for starting of the semester pattern in Faculty of Science and Technology from the academic session 2021 – 22;

AND

Whereas, the Dean, Faculty of Science and Technology has consented to the syllabi and the scheme of examination for the award of B.Sc. (D S) degree in Faculty of Science,

AND

Whereas, the Vice Chancellor in exercise of his powers under Section 12(7) has approved the syllabus and the scheme of examination of the B.Sc. (D.S.) programme, on behalf of the faculty of Science and Technology on 12/10/2021;

AND

Whereas, the Academic Council in its meeting held on 12/10/2021 approved the syllabus and the scheme of examination of B.Sc (D.S.) programme Vide its decision on item no. 51;

AND

Whereas, introduction of any new academic programme in the University, leading to award of any degree or diploma requires making of an Ordinance, in terms of the provisions of Section 73 of the Act, however Ordinance making being a time consuming process and there is urgency to introduce the programme of B.Sc. (D.S.) in the University, which justifies issuance of a Direction in exercise of the powers under Section 12(8) of the Act;

Now, therefore, I, Dr. Subhash R. Chaudhari, Vice Chancellor of Rashtrasant Tukadoji Maharaj Nagpur University, in exercise of powers conferred upon me under sub-section (8) of section 12 of the Maharashtra public Universities Act., 2016, do hereby issue the following Direction;

1. This Direction may be called, **“ADMISSIONS AND EXAMINATIONS LEADING TO THE AWARD OF THE DEGREE OF BACHELOR OF SCIENCE (DATA SCIENCE) (SEMESTER PATTERN) DIRECTION, 2022”**
2. This Direction shall come into force with effect from the date of its issuance. However this Direction shall also govern the admission of the students in the first semester of the B.Sc (Data Science)(D.S) Programme Under this Direction, made in the academic session 2021-22.
3. (i) The following shall be the examination leading to the Degree of BACHELOR OF SCIENCE (DATA SCIENCE) in the faculty of Science and Technology namely:
 - a. The B.Sc. (D S) Semester-I Examination;
 - b. The B.Sc. (D S) Semester-II Examination;
 - c. The B.Sc. (D S) Semester-III Examination;
 - d. The B.Sc. (D S) Semester-IV Examination;
 - e. The B.Sc. (D S) Semester-V Examination; and
 - f. The B.Sc. (D S) Semester-VI Examination.
- (ii) The period of Academic Session shall be such, as may be notified by the University.
4. **The theory examination** of Semester-I, II, III, IV, V and VI shall be conducted by the University and **shall be held separately** at the end of each semester at such places and dates as may be decided by the University and shall be held as per the schedule given in Table 1.

Table 1			
Sr. No.	Name of the Examination	Main Examination	Supplementary Examination
1.	Semester I, III, and V	Winter,	Summer
2.	Semester II, IV, and VI	Summer	Winter

5. Eligibility of every applicant for admission to B. Sc. (Data Science) Semester programme shall be :-

A) In case of the B. Sc. Semester I examination:-

The candidate should have passed the 12th Standard Examination of the Maharashtra State Board of Secondary and Higher Secondary Education with English and other Modern Indian Languages together with **any three Science subjects comprised in the faculty of Science with Mathematics** or an examination recognized as equivalent thereto in such subjects and with such standards of attainments as may be prescribed.

B) In case of the B. Sc. Semester II, III, IV, V and VI Examinations:-

The student should have attended a minimum of 90 days in the respective semester and passed the previous semester examination as per the rules of ATKT as mentioned in table 2 of this direction.

6. The ATKT rules for admission for the B.Sc.(Data Science) Course (**Theory and Practical as separate passing head and on calculation fraction, if any, shall be ignored**) shall be as given in the following Table- 2.

Table 2		
Admission to Semester	The student should have attended the Session / term satisfactorily	Candidates should have passed at least one half of the passing heads of the following examinations (Theory and Practical as separate passing head and on calculation fraction, if any, shall be ignored)
1	2	3
B. Sc. Semester I	Semester I and admitted As per para 2 of this Direction	-----

B. Sc. Semester II	Semester II	-----
B. Sc. Semester III	Semester III	One half of the total head prescribed for Semester I and Semester II examination
B. Sc. Semester IV	Semester IV	-----
B. Sc. Semester V	Semester V	a) Passed Semester I & II examination and b) One half of the total head prescribed for Semester III & IV examination
B. Sc. Semester VI	Semester VI	-----

7. The fee for each Semester examination shall be as prescribed by the University from time to time.

8. Every examinee for the B. Sc. Semester I & II examination shall be examined in:

- Compulsory English
- Any one of the following Languages (Second Language)
Marathi, Hindi, Urdu, Supplementary English, Gujarati, Bengali, Telugu, Sanskrit, French, German, Russian, Persian, Arabic, Pali and Prakrit or Latin

9. The maximum marks allotted to each subject and the minimum marks which an examinee must obtain in order to pass the examination shall be as per the Appendix A appended to this Direction.

10. The practical examination of all semesters shall be conducted at the end of each semester as indicated in Table 3 given below.

Table 3			
Sr. No.	Name of the Examination	Main Examination	Supplementary Examination
1.	Semester I, III, and V	Winter,	Summer
2.	Semester II, IV, and VI	Summer	Winter

11. The Scope of the subjects of all semesters of B.Sc. (D.S.) examination shall be as indicated in the respective syllabi in force from time to time. The medium of instruction and examination shall be English, except for the courses in Languages.

12. The scheme of awarding internal marks shall be as per Appendix- B appended with this Direction.

13. Successful examinees at the B.Sc. (D.S.) Sem-VI Examination who obtain not less than 60% marks (aggregate of Sem-I, II, III, IV, V & VI Examinations taken together, excluding Languages) shall be placed in First Division, those obtaining less than 60% but not less than 45% in Second Division, and all other successful examinees in the Third Division.

14. There shall be no classification of successful examinees at the Sem-I to Sem-V Examinations.

15. Conversion of Marks to Grades and Calculations of SGPA (Grade Point Average) and CGPA (Cumulative Grade Point Average):

(A). In the Credit and Grade Point System, the assessment of individual Courses in the concerned examinations shall be on the basis of marks only; but the marks shall later be converted into Grades by some mechanism wherein the overall performance of the learner can be reflected after considering the credit points for any given course. Therefore, the overall evaluation of the learner shall be designated in terms of Grade. In this system some abbreviations and formulas are used which are as below:

Abbreviations and Formulae Used

G: Grade

GP: Grade Points

C: Credits

CP: Credit Points

CG: Credits X Grades (Product of credits & Grades)

SGPA = ΣCG : Sum of Product of Credits & Grades points / ΣC : Sum of Credits points

SGPA: Semester Grade Point Average shall be calculated for individual semesters. (It is also designated as GPA)

CGPA: Cumulative Grade Point Average shall be calculated for the entire Programme by considering all the semesters taken together.

CGPA to Percentage (%) Conversion Formula

Percentage (%) = (CGPA) * 10

(B) After calculating the SGPA for an individual semester and the CGPA for entire programme, the value can be matched with the grade in the Grade Point table as per the ten (10) Points Grading System and expressed as a single designated GRADE such as O, A, B, C, etc.

Marks	Grade	Grade Points
90 to 100	O (Outstanding)	10
80 to 89.99	A (Distinction)	9
70 to 79.99	B (Very Good)	8
60 to 69.99	C (Good)	7
50 to 59.99	D(Average)	6
40 to 49.99	P(Pass)	5
Less than 40	F (Fail)	0
	AB (Absent)	0

A student obtaining Grade F shall be considered failed and will be required to reappear in the examination.

- (C) Division at the B. Sc. (Data Science) Semester - VI Examination shall be declared on the basis of the aggregate marks at the B. Sc. (Data Science) Semester - I, Semester - II, Semester-III, Semester- IV, Semester- V and Semester- VI Examination taken together and the CGPA will be calculated and notified.

- (D) Successful examinees at the B. Sc. (Data Science) Semester - VI Examination shall be awarded division based on CGPA as follows:

CGPA Range	Final Grade
9 to 10.00	O (Outstanding)
8 to 8.99	A (Distinction)
7 to 7.99	B (Very Good)
6 to 6.99	C (Good)
5 to 5.99	D (Average)
4.00 to 4.99	P (Pass)
Less than 4.00	F (Fail)
0	AB(Absent)

- (E) Successful examinees in the B. Sc. (Data Science) Semester Examination shall be awarded Distinction in each subject in which examinees obtain 75% or more marks in that subject at the respective examination.

- (F) **Notwithstanding** anything to the contrary in this Direction, no person shall be admitted to an examination under this ordinance, if he/she has already passed the same examination or an equivalent examination of any other University.

(G) Examinees successful at B.Sc.(Data Science) Semester-I, Semester-II, Semester-III, Semester-IV, Semester-V and Semester-VI examination shall on payment of the prescribed fees receive a Degree in the prescribed form signed by the Vice-Chancellor.

16. Provisions of Ordinance No 7-A relating to the Condonation of Deficiency of Marks for passing an examination and compartment as amended up-to-date vide ordinance No. 45 of 1983 shall apply to the examinations under this Direction.

17. As soon as possible after the examinations, the Board of Examinations shall publish a list of successful examinees at the B.Sc. (D.S.) Sem-I & II; B.Sc. (D.S.) Sem-III & IV and B.Sc. (D.S.) Sem-V & VI Examinations. Such list at the B.Sc. (D.S.) Semester VI Examination shall be arranged in three Divisions. The names of the examinees passing the examination as a whole in the minimum prescribed period and obtaining the prescribed number of places in First or Second Division shall be arranged in Order of Merit as provided in the Examinations in General Ordinance No. 6. While preparing the Merit list for the B.Sc. (D.S.) Examination the marks secured by the candidate in the compulsory languages at their Semester I & II Examination will be taken into consideration in addition to the marks scored by them in their optional subjects.

18. No Person shall be admitted to B.Sc. (D.S.) Sem-I, II, III, IV, V and VI Examinations, if he/she has already passed the corresponding or an equivalent examination of any other Statutory University.

19. Successful examinees at the B.Sc. (D.S.) Sem I, II, III, IV, and V Examinations shall be entitled to receive a **Certificate** signed by the **Registrar** and successful examinees at the end of B.Sc. (D.S.) Sem VI examination shall, on payment of prescribed fees, receive a Degree in the prescribed format, signed by the Vice-Chancellor.

20. 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.

Nagpur:

Date: 10-2-2022

(Dr. Subhash R. Chaudhari)
Vice-Chancellor

Appendix – A
Teaching & Examination Scheme
Bachelor of Science (Data Science)
Three Year (SIX SEMESTER) DEGREE COURSE

B.Sc. Data Science

Semester-I

Semester-I														
Course Code	Subjects Name	Teaching Scheme (Hours/week)			Credits	Examination Scheme								
		Th + Tu (Period)	Pr. (Periods)	Total Periods		Theory					Practical			Total Marks (Th, Pr, IA)
						Duration Hrs	Max Marks Theory Paper	Max Marks (IA)	Total	Min Passing Marks	Duration Hrs	Max Marks Practical Paper	Min Passing Marks	
IDST01	Compulsory English	4 +1	-	4+1	5	3	60	15	75	30	-	-	-	75
IDST02	Second Language	3	-	3	3	3	60	15	75	30	-	-	-	75
IDST03	Linear Algebra	4	-	4	4	3	80	20	100	40	-	-	-	100
IDST04	Computer Fundamentals and Operating System	4	-	4	4	3	80	20	100	40	-	-	-	100
IDST05	Programming in C	4	-	4	4	3	80	20	100	40	-	-	-	100
IDSP01	Operating System Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50
IDSP02	Programming in C Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50

Note:

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment; @ = Tutorials wherever applicable; * = If required, for two days.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately
 - The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional: of 10% with the permission of Hon'ble Vice-Chancellor.
 - Details of Course of Languages shall be as per B.Sc. I

Grand Total of Semester I & II: 400 + 150 each semester = TOTAL – 550 Marks per semester



B.Sc. Data Science

Semester-II

Course Code	Subjects Name	Teaching Scheme (Hours/week)		Credits	Semester-II Examination Scheme									
		Th + Tu (Period)	Pr. (Periods)		Total Periods	Theory					Practical			Total Marks (Th. Pr. IA)
						Duration Hrs	Max Marks Theory Paper	Max Marks (IA)	Total	Min Passing Marks	Duration Hrs	Max Marks Practical Paper	Min Passing Marks	
2DST01	Compulsory English	4 +1	-	4+1	5	3	60	15	75	30	-	-	-	75
2DST02	Second Language	3	-	3	3	3	60	15	75	30	-	-	-	75
2DST03	Probability and Statistics	4		4	4	3	80	20	100	40	-	-	-	100
2DST04	Discrete Mathematics and Graph Theory	4		4	4	3	80	20	100	40	-	-	-	100
2DST05	Data Structures	4		4	4	3	80	20	100	40	-	-	-	100
2DSP01	Statistics Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50
2DSP02	Data Structure Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment; @ = Tutorials wherever applicable; * = If required, for two days.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately
 - The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon`ble Vice-Chancellor.
 - Details of Course of Languages shall be as per B.Sc. I

Grand Total of Semester I & II: 400 + 150 each semester = TOTAL – 550 Marks per semester

Note:

1. Th = Theory; Pr = Practical; Tu = Tutorial; IA = Internal Assessment; @ = Tutorials wherever applicable; * = If required, for two days.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately
 - The strength of Batch of Practical and Tutorial for Under Graduates classes shall be 16 with an additional; of 10% with the permission of Hon'ble Vice-Chancellor.
 - Details of Course of Languages shall be as per B.Sc. I

Grand Total of Semester I & II: 400 + 150 each semester = TOTAL – 550 Marks per semester

B.Sc. Data Science

Semester-III

Course Code	Subjects Name	Teaching Scheme (Hours/week)			Credits	Semester-III Examination Scheme								
		Th + Tu (Period)	Pr. (Periods)	Total Periods		Theory					Practical			Total Marks (Th, Pr, IA)
						Duration Hrs	Max Marks Theory Paper	Max Marks (IA)	Total	Min Passing Marks	Duration Hrs	Max Marks Practical Paper	Min Passing Marks	
3DST01	Programming in Java	4		4	4	3	80	20	100	40	-	-	-	100
3DST02	Database Management System	4		4	4	3	80	20	100	40	-	-	-	100
3DST03	Statistical Inference	4		4	4	3	80	20	100	40	-	-	-	100
3DST04	Data communication and Network	4		4	4	3	80	20	100	40	-	-	-	100
3DST05	Design and Analysis of Algorithms	4		4	4	3	80	20	100	40	-	-	-	100
3DSP01	Programming in Java Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50
3DSP02	Database Management System Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50

Note:

1. Th = Theory; Pr = Practical; IA = Internal Assessment; * = If required, for two days.

2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.

3. Candidate has to pass theory papers and practical separately

Grand Total of Semester III & IV: 600 each semester = TOTAL – 600 Marks per semester

Note:

1. Th = Theory; Pr = Practical; IA = Internal Assessment; * = If required, for two days.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately

Grand Total of Semester III & IV: 600 each semester = TOTAL - 600 Marks per semester

B.Sc. Data Science

Semester-IV

Course Code	Subjects Name	Teaching Scheme (Hours/week)			Credits	Semester-IV Examination Scheme								
		Th + Tu (Period)	Pr. (Periods)	Total Periods		Theory					Practical			Total Marks (Th. Pr. IA)
						Duration Hrs	Max Marks Theory Paper	Max Marks (IA)	Total	Min Passing Marks	Duration Hrs	Max Marks Practical Paper	Min Passing Marks	
4DST01	Python Programming	4		4	4	3	80	20	100	40	-	-	-	100
4DST02	Cloud Computing	4		4	4	3	80	20	100	40	-	-	-	100
4DST03	Data Warehousing & Mining	4		4	4	3	80	20	100	40	-	-	-	100
4DST04	Business Research Methods	4		4	4	3	80	20	100	40	-	-	-	100
4DST05	Time Series Analysis	4		4	4	3	80	20	100	40	-	-	-	100
4DSP01	Python Programming Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50
4DSP02	Data Mining Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50

Note:

1. Th = Theory; Pr = Practical; IA = Internal Assessment; * = If required, for two days.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately

Grand Total of Semester III & IV: 600 each semester = TOTAL – 600 Marks per semester

Note:

1. Th = Theory; Pr = Practical; IA = Internal Assessment; * = If required, for two days.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately

Grand Total of Semester III & IV: 600 each semester = TOTAL - 600 Marks per semester

B.Sc. Data Science
Semester-V

B.Sc. Data Science														
Course Code	Subjects Name	Teaching Scheme (Hours/week)			Credits	Examination Scheme								
		Th + Tu (Period)	Pr. (Periods)	Total Periods		Theory					Practical			Total Marks (Th. Pr. IA)
						Duration Hrs	Max Marks Theory Paper	Max Marks (IA)	Total	Min Passing Marks	Duration Hrs	Max Marks Practical Paper	Min Passing Marks	
5DST01	Machine Learning	4		4	4	3	80	20	100	40	-	-	-	100
5DST02	Introduction to Artificial Intelligence	4		4	4	3	80	20	100	40	-	-	-	100
5DST03	R-Programming	4		4	4	3	80	20	100	40	-	-	-	100
5DST04	Big Data Analytics	4		4	4	3	80	20	100	40	-	-	-	100
5DSP01	Big Data Analytics-Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50
5DSP02	AdvancedR-Programming Lab	-	2*1=2	2	2	-	-	-	-	-	6-8*	50	20	50
5DSPR01	Minor project	-	2*1=2	2	2	-	-			-	6-8*	100**	40	100
Note: 1. Th = Theory; Pr = Practical; IA = Internal Assessment; * = If required, for two days.** = The Practical and Project shall be evaluated by both External and Internal Examiner in the respective Department / Center / Affiliated College as per guidelines appended with this direction. 2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical. 3. For Minor project evaluation 50 marks will be (internal Assessment) and 50 Marks will be (External Assesement) 3. Candidate has to pass theory papers and practical separately Grand Total of Semester V: 600 Marks														

B.Sc. Data Science

Semester-VI

Semester-VI														
Course Code	Subjects Name	Teaching Scheme (Hours/week)		Credits	Examination Scheme									
		Th + Tu (Period)	Pr. (Periods)		Total Periods	Theory					Practical			Total Marks (Th, Pr, IA)
						Duration Hrs	Max Marks Theory Paper	Max Marks (IA)	Total	Min Passing Marks	Duration Hrs	Max Marks Practical Paper	Min Passing Marks	
6DST01	Internet of Things	4		4	4	3	80	20	100	40	-	-	-	100
6DST02	Optimization Technique	4		4	4	3	80	20	100	40	-	-	-	100
6DST03	Elective I (any one out of four)	4		4	4	3	80	20	100	40	-	-	-	100
6DST04	Elective II (any one out of four)	4		4	4	3	80	20	100	40	-	-	-	100
6DSTPR 01	Major Project	4		4	4	3		100	100	40	-	100**	40	200

Note:

1. Th = Theory; Pr = Practical; IA = Internal Assessment; * = If required, for two days. ** = The Project shall be evaluated by both External and Internal Examiner in the respective Department / Center / Affiliated College as per guidelines appended with this direction.
2. Minimum marks for passing will be 40% of the total marks allotted to that paper / practical.
3. Candidate has to pass theory papers and practical separately

Grand Total of Semester VI: 600 Marks

Electives for Semester VI

Sr. No.	Electives-1	Sr. No.	Electives-2
1	Reinforcement Learning	1	Social Media Analytics
2	Supply Chain and Logistics Analytics	2	Natural Language Processing
3	Marketing and Retail Analytics	3	Financial Analysis
4	Digital Image Processing	4	Digital Signal Processing

Appendix - B:

Internal Assessment:

Guidelines for Internal Assessment are appended herewith.

- a) The internal assessment marks assigned to each theory paper as mentioned in Appendix - A shall be awarded on the basis of assignments like class test, attendance, project assignments, seminar, study tour, industrial visits, visit to educational institutions and research organizations, field work, group discussions or any other innovative practice / activity.
- b) There shall be two assignments (as described above) per Theory paper.
- c) At the beginning of each semester, every teacher shall inform his / her students unambiguously the method he / she proposes to adopt and the scheme of marking for internal assessment.
- d) Teacher shall announce the schedule of activity for internal assessment in advance in consultation with HOD / principal.

e) Final submission of internal marks to the University shall be before the commencement of the University Theory examinations.

2Assignments – 6+6 = 12

Marks Performance & Conduct – 4

Marks Attendance - 4 Marks

TOTAL – 20 MARKS

Theory Papers:

1) All Theory papers shall be divided into four units.

2) Each theory paper will be of 80 marks (60 marks for Languages) each.

3) The theory question papers shall be of 3 hours duration and comprise of 5 questions with equal weightage to all units.

4) The pattern of question papers is appended herewith.

Theory paper will be of 80 marks each. All questions are compulsory and will carry equal marks.

Question paper for any theory paper will comprise of five questions of 16 marks each. Question No. 1 to 4 will be from four units each with an internal choice. The questions can be asked in the form of long answer type for 16 marks or two questions of 8marks each. Question No. 5 shall be compulsory with four questions / notes of very short answer type from each of the four units having 4 mark each.

Practical Papers:

Practicals will be based on the relevant semester subjects

Valuation Pattern for practical examination:-

The valuation scheme of practical examination will be as under.

1. Record - 10
2. Viva - 10
3. Writing - 15
4. Execution - 15

TOTAL – 50

Valuation Pattern for Major and Minor project Evaluation:-

Minor Project		
	Internal Evaluation	External Evaluation
Two Seminar	20	-
Project Report	30	30
Viva	-	20
Total	50	50

Major Project		
	Internal Evaluation	External Evaluation
Two Seminar	40	-
Project Report	60	60
Viva	-	40
Total	100	100

**Name of the college/
Institution name of the department
C E R T I F I C A T E**

Name of the college / institution _____
Name of the Department: _____

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

Dated ____ / ____ / ____

Signature of the teacher who taught the examinee

1. _____
2. _____

Head of the Department

Minor and Major Project:

Minor project will be based on the Syllabus and recent trends, which will be accessed by internal in Semester V on the basis of two Seminars and viva voce along submission of Spiral Binding report.

Major project will be based on the Syllabus and recent trends, and student have to submit Dissertation reports along with minimum two Seminars based on Major project in Semester – VI

Group projects will be allowed in both minor and major project with group not exceeding more than two students in a group.

Project Report Formulation

Front Page.

College Certificate Page. Declaration Page.

Acknowledgment Page. Project Profile.

Index or Content Page.

I. *Contents_____.

II. Appendices

I. List Figures, Tables & Charts.

II. Approved copy of Synopsis. Glossary

III. Contents.

I. Introduction.

II. Objectives.

III. Preliminary System Analysis.

- Preliminary Investigation.
- Present System in Use.



- Flaws in Present System.
 - Need of New System.
 - Feasibility Study.
 - Project Category.
- IV. Software Engineering Paradigm Applied
- Modules
 - System / Modular Chart.
- V. Software & Hardware Requirement Specification.
- VI. Detailed System Analysis.
- Data Flow Diagram.
 - Numbers of Modules and Process Logic.
 - Data Structures and Tables.
 - Entity-Relationship Diagram.
- VII. System Design.
- Form Design.
 - Source Code.
 - Input screen & Output Screen.
- VIII. Testing & Validation Checks.
- IX. System Security Measures.
- X. Implementation, Evaluation and Maintenance.
- XI. Future Scope of the project.
- XII. Suggestion & Conclusion
- XIII. Bibliography & References

