

M.D. UNIVERSITY, ROHTAK

(NAAC Accredited 'A+' Grade)

SCHEME OF STUDIES AND EXAMINATION B.TECH (Robotics and Automation Engineering) SEMESTER 5th AND 6th Scheme w.e.f 2022-23

COURSE CODE AND DEFINITIONS:

Course Code	Definitions
L	Lecture
T	Tutorial
P	Practical
BSC	Basic Science Courses
ESC	Engineering Science Courses
HSMC	Humanities and Social Sciences including Management courses
PCC	Professional Core Courses
LC	Laboratory Courses
MC	Mandatory Courses
PT	Practical Training
S	Seminar
TH	Theory
Pr	Practical

General Notes:

1. Mandatory courses are non-credit courses in which students will be required passing marks in internal assessments.
2. Students will be allowed to use non programmable scientific calculator. However, sharing of calculator will not be permitted in the examination.
3. Students will be permitted to opt for any elective course run by the department. However, the department shall offer those electives for which they have expertise. The choice of the students for any elective shall not be binding for the department to offer, if the department does not have expertise. To run the elective course a minimum of 1/3rd students of the class should opt for it.

Scheme of Studies and Examination
B.TECH (Robotics and Automation Engineering) – 5th Semester
w.e.f. 2022-23

S. N.	Course Code	Course Title	Hours per week			Total Contact hrs/week	Credit	Examination Schedule (Marks)				Duration of Exam (Hours)
			L	T	P			Internal Assessment	External Examination	Practical	Total	
1	PCC-ME-301G (Common with ME)	Computer Aided Design & Manufacturing	3	0	0	0	3	25	75		100	3
2	PCC- RA-303G	Industrial Automation & Robotics	3	1	0	3	3	25	75		100	3
3	ESC-CSE-205G (Common with CSE)	Digital Electronics	3	0	0	3	3	25	75		100	3
4	PCC- ME-307G (Common with ME)	Kinematics of Machine	3	0	0	3	3	25	75		100	3
5	PCC-CSE-203G (Common with CSE)	Data Structures & Algorithms	3	0	0	3	3	25	75		100	3
6	OEC/HSMC-I	Refer List -I	2	0	0	2	2	25	75		100	3
7	LC-ME-311G (Common with ME)	Computer Aided Design & Manufacturing Lab	0	0	2	2	1	25		25	50	3
8	LC-CSE-211G (Common with CSE)	Digital Electronics Lab	0	0	2	2	1	25		25	50	3
9	LC-ME-315G (Common with ME)	Kinematics of Machine Lab	0	0	2	2	1	25		25	50	3
10	LC-CSE-213G (Common with CSE)	Data Structures & Algorithms LAB Using C	0	0	2	2	1	25		25	50	3
11	PT-RA-319G	Practical Training-I	0	0	2	2	0	Refer note-1				3
12	MC-315G	Essence of Indian Traditional knowledge										
TOTAL							21				800	

Refer note-1. The evaluation of Practical Training-I will be based on seminar, viva-voce, report submitted by the students. According to performance, the students are awarded grades A, B, C, F. A student who is awarded 'F' grade is required to repeat Practical Training.

Excellent: A; Good : B; Satisfactory: C; Not Satisfactory: F.

OPEN ELECTIVE COURSES (OEC)/ HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT COURSES (HSMC)-LIST-I

LIST-I (Semester -V)

S. No.	Code	Name of Course	No. of Contact Hours	Credits
1.	HSMC-01G	Economics For Engineers	2	2
2.	HSMC-03G	Finance and Accounting	2	2
3.	OEC –RA-301G	Air and Noise Pollution and Control	2	2
4.	OEC –RA-303G	Installation Testing & Maintenance of Electrical Equipments	2	2
5.	OEC –RA-305G	Microprocessor and Interfacing	2	2

Note: Students have to select any one subject from the above list of courses.

Scheme of Studies and Examination
B.TECH (Robotics and Automation engineering) – 6th Semester
w.e.f. 2022-23

S. N.	Course Code	Course Title	Hours per week			Total Contact hrs/week	Credit	Examination Schedule (Marks)				Duration of Exam (Hours)
			L	T	P			Internal Assessment	External Examination	Practical	Total	
1	PCC-ME-302G (Common with ME)	Manufacturing Technology	3	0	0	3	3	25	75		100	
2	PCC- RA-304G	Robotics Engineering and Application	3	0	0	3	3	25	75		100	
3	PCC- RA-306G	Microprocessor & Microcontroller	3	1	0	4	4	25	75		100	
4	PCC- RA-308G	Artificial Intelligence in Robotics	3	0	0	3	3	25	75		100	
5	LC-ME-310G (Common with ME)	Workshop Lab-I	0	0	3	3	1.5	25		25	50	
6	LC-RA-312G	Robotics Engineering and Application Lab	0	0	2	2	1	25		25	50	
7	LC-RA-314G	Microprocessor & Microcontroller Lab	0	0	2	2	1	25		25	50	
8	LC-RA-316G	Artificial Intelligence Lab using python	0	0	2	2	1	25		25	50	
9	PCC-RA-318G	Seminar	0	0	2	2	1	50			50	
10	PEC	Professional Elective Courses(PEC): Refer List -I	3	0	0	3	3	25	75		100	
11	HSMC-II	Refer List -II	2	0	0	2	2	25	75		100	
TOTAL							23.5				850	

NOTE:

- Each student has to undergo practical training of 4/6 weeks during summer vacation and its evaluation shall be carried out in the VII semester.
- Assessment of Practical Training-II, undergone at the end of VI semester, will be based on seminar, viva-voce, report and certificate of practical training obtained by the student from the industry/ Professional organization/ Research Laboratory etc. According to performance letter grades A, B, C, F are to be awarded:

Excellent: A; Good : B; Satisfactory :C; not satisfactory: F.

A student who has been awarded 'F' grade will be required to repeat the practical training.

PROFESSIONAL ELECTIVE COURSES (PEC) (Semester-VI) LIST-I

S. No.	Code	Name of Course	No. of Contact Hours	Credits
1.	PEC-ME-320G	Internal Combustion Engines & Gas Turbines	3	3
2.	PEC-ME-322G	Welding Technology	3	3
3.	PEC-ME-324G	Air Craft Technology	3	3
4.	PEC-ME-326G	Reliability, Availability & Maintainability	3	3

Note: Students will have to select any one out of the list.

HUMANITIES AND SOCIAL SCIENCES INCLUDING MANAGEMENT COURSES (HSMC)-LIST-II.

List-II (Semester-VI)

S. No.	Code	Name of Course	No. of Contact Hours	Credits
1.	HSMC -02G	Organizational Behaviour	2	2
2.	HSMC -04G	Human Resource Management	2	2
3.	HSMC -06G	Industrial Psychology	2	2
4.	HSMC -08G	Fundamentals of Management	2	2

Note: Students have to select any one subject from the above list of courses.