

B.Sc

B.Sc.(Hons.) Electronics

with

specialization in Robotics and Application
COURSE AND CREDIT STRUCTURE



Sharda
Parma

Department of Electronics and Communication Engineering
School of Engineering and Technology
SHARDA UNIVERSITY

B.SC.(Hons.) Electronics with specialization in Robotics and Application Course Structure (2018 onwards)

		Courses (L-T-P)										Credits		
		Courses		Contact Hours				TOTAL	Credits					
		L	T	P										
	4	Mathematics Foundation for Robotics SC2 (4-2-0)6	Environmental Science AECC1 (2-0-0)2	Programming for Problem Solving for robotics GE1 (4-0-4)6	Environmental Science AECC1 (2-0-0)2	Applied Physics SC4 (4-0-4)6	Semiconductor Devices SC3 (4-2-0)6	Basic Circuit Theory and Network Analysis SC1 (4-0-4)6	4	14	2	8	24	20
	4	Application based programming in Python GE2 (2-0-4)4	Applied Physics SC4 (4-0-4)6	Introduction to Industry Environment GE3 (0-0-2)1	Applied Physics SC4 (4-0-4)6	Functional English -I AECC2 (2-0-0)2	Digital Electronics and Verilog/VHDL SC6 (4-0-4)6	Electronics Circuits SC5 (4-0-4)6	4	14	2	8	24	19
	5	Soft Skill - 1 SEC1 (0-0-4)2	C Programming and Data Structures SC7 (4-0-4)6	sensors and transducers of robotics GE4 (4-0-4)6	Electronic Instrumentation SC10 (4-0-4)6	Operational Amplifiers and Applications SC8 (4-0-4)6	Signals and Systems SC9 (4-0-4)6	Operational Amplifiers and Applications SC8 (4-0-4)6	5	16	0	20	36	26
	5	Soft Skill - 2 SEC2 (0-0-4)2	Discipline Specific Elective -1 DSC1 (4-0-4)6	Mechatronics of Robotics GE5 (4-0-4)6	Discipline Specific Elective -1 DSC1 (4-0-4)6	Consumer electronics SC12 (3-0-4)4	Microprocessor and Microcontrollers SC11 (4-0-4)6	Microprocessor and Microcontrollers SC11 (4-0-4)6	5	16	0	20	36	26
	4	Discipline Specific Elective -2 DSC2 (4-0-4)6	Discipline Specific Elective -3 DSC3 (4-0-4)6	Industrial Interface of Robotics SC13 (0-0-4)2	Discipline Specific Elective -3 DSC3 (4-0-4)6	Optoelectronics SC15 (4-0-4)6	Communication Electronics SC14 (4-0-4)6	Communication Electronics SC14 (4-0-4)6	4	16	0	16	32	25
	26	TOTAL		92	4	88	184	140						



 05/10/19

Legends:

Subject core(SC):	85 credits
Generic Electives(GE):	23 credits
Discipline Specific Elective(DSE):	24 credits
Ability Enhancement Compulsory Course(AECC):	04 credits
Skill Enhancement Course(SEC):	04 credits
Total:	140 credits

Generic Electives:

1. Programming for Problem Solving for robotics
2. Application based programming in Python
3. Introduction to Engineers
4. sensors and transducers of robotics
5. Mechatronics of Robotics

Discipline Specific Elective:

1. PLC, SCADA with hydraulics and pneumatics
2. Electronic Circuits and PCB Designing for robotics
3. Power Electronics
4. Electrical Machines
5. Basic VLSI Design
6. Digital Signal Processing
7. Control Systems
8. Embedded Systems
9. Biomedical Instrumentation

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Minutes of Meeting of BOS: B.Sc. Electronics with specialization in Robotics

1. B.Sc honours is to be run by SBSR, school of science...AICTE UGC may have problem.
2. Microcontroller PIC 16 should be removed and changed to ARM STM32 in syllabus of Microprocessor and Microcontroller .
3. Introduction to Engineers is not relevant to B.Sc Robotics and may be replaced by Industrial Environment.
4. In Signals and systems syllabus, introduction to transform techniques for discrete time domain should be added that is Z Transform.
5. In Mechatronics syllabus for robotics, specify types of DC motors as stepper ,BLDC and servo.
6. Embedded syllabus should include SPI protocol, Zig Bee, Blue Tooth, and RF ID
7. In addition to Python, include TCL language in course of B.Sc electronics in specialization of Robotics.

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Department of Electronic and Communication Engineering
School of Engineering and Technology
Sharda University
Minutes of Meeting of External BoS(session 2018 onwards)

Following members were present in the External BoS for various programs on 05/06/2018 at 005, board room, block-I Chaired by Dr. Pallavi Gupta, HoD, ECE&EEE

A. From other University

1. Prof. Avinashi Kapoor
Department of Electronic Science
University of Delhi South Campus
New Delhi-110 021
E-mail: avinashi_kapoor@yahoo.com
Mobile: 09350571397

2: Dr Ajay Agarwal

CEERI, CSIR,
Pilani
Mob o8058598903

B. From Industry

1. **Mr. Shekhar Singhal**
Module Lead,
Logic Fruit Technologies,
Sector 30, Gurugram, India
Email ID- shekhar.singhal6@gmail.com
Mobile- 08527801799

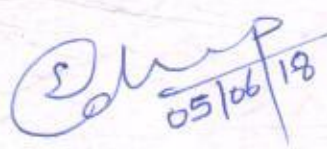
2. Dr. Rajeev Kumar Srivastava
Director
Design Platforms, NXP Semiconductors India Private Limited
Information Technology Park
Nagawara Village, Kasaba Hobli
Bangalore 560045
E-mail: rajeev.rajeevsrivastava@gmail.com
Mobile: 07259219237

3. Mr.Alok Mittal
Senior Technical Officer
Advanced manufacturing lab

ST Microelectronics
Greater Noida
E.Mail:Alok.mittal@st.com
Mobile:9810060432

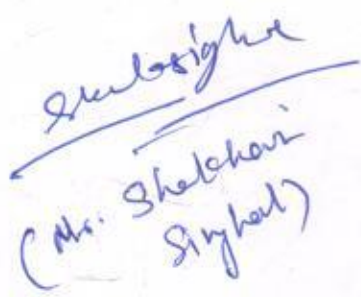
C. Internal members

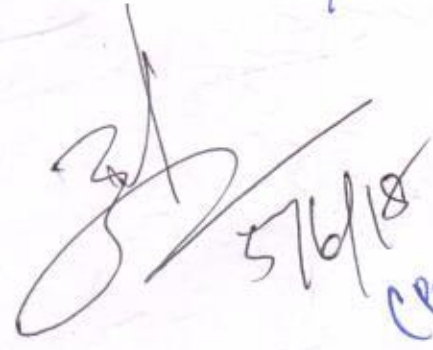
1. Dr. Pallavi Gupta(HOD)
(Associate Professor)
2. Prof. R. M. Mehra
3. Dr. Rashmi Priyadarshini
4. Mr. Sandeep Singh
5. Mrs. Shaheen Naaz
6. Mr. Shiv Pujan Jaiswal
7. Mr. C Mohan
8. Ms Manisha Rajoriya
9. Ms. Ritu Singh
10. Mr. Prince Nagar


05/06/18

Manisha Rajoriya




(Mr. Shalochan Singh)


5/6/18
(Prof. Anilashi Kapur)







Minutes B.Tech Course Structure - ECE

1. In Introduction to Engineers syllabus to be modified including Blue Brain, 5G, in place of AI.
2. Include subject as Smart Materials as elective.
3. Summer Internship in 1st year is to be reviewed.
4. Soft skill may be changed to audit course, to save our credits for core subjects like LIC.
5. Introduction to biology may be changed to Biomedical Engineering.
6. In DSP Book, include book DSP BY Rabiner and Gold, Pearson publication.
7. In tinkering lab syllabus, update syllabus of unit 3 and 4.
8. In Lab we should include protocol analyzer (open source).
9. PCB Design tools may be incorporated in syllabus of Tinkering lab.
10. Security and power saving techniques may be included in syllabus of IOT and Basics of drone technology
11. In 6th semester, if students are taking Embedded system as an elective, the project based learning will be lab for Embedded system based on STM32.
12. There should be one additional subject may be included in the program including differential amplifier, level shifter and current mirror and CMOS Technology.

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Edup
05/06/18

Pallavi

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