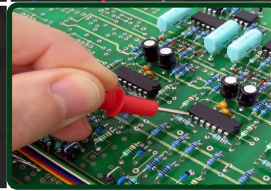


SANGAI INTERNATIONAL UNIVERSITY



Syllabus B. Sc. (HONOURS) Electronic Science

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CHOICE BASED CREDIT SYSTEM

B. Sc. (HONOURS) Electronic Science

Syllabus and Scheme of Examination

for

B.Sc. (Honours) Electronic Science

Submitted

to

***University Grants Commission
New Delhi***

under

Choice Based Credit System

June 2015

Course Structure

Details of course under B.Sc. (Honours)

Course	*Credits	
	Theory+ Practical	Theory + Tutorial
<u>I. Core Course</u>		
(14 Papers)	14X4= 56	
Core Course Practical / Tutorial*		
(14 Papers)	14X2=28	
<u>II. Elective Course</u>		
(8 Papers)		
A.1. Discipline Specific Elective	4X4=16	
(4 Papers)		
A.2. Discipline Specific Elective		
Practical/ Tutorial*	4 X 2=8	
(4 Papers)		
B.1. Generic Elective/		
Interdisciplinary	4X4=16	4X5=20
(4 Papers)		
B.2. Generic Elective		
Practical/ Tutorial*	4 X 2=8	4X1=4
(4 Papers)		
• Optional Dissertation or project work in place of one Discipline Specific Elective paper (6 credits) in 6th Semester		
<u>III. Ability Enhancement Courses</u>		
1. Ability Enhancement Compulsory Courses (AECC)		
(2 Papers of 2 credit each)	2 X 2=4	2 X 2=4
Environmental Science		
English/MIL Communication		
2. Skill Enhancement Courses (SEC)		
(Minimum 2)	2 X 2=4	2 X 2=4
(2 Papers of 2 credit each)		
Total credit	140	140

* wherever there is a practical there will be no tutorial and vice-versa

Policy about ECA/ General Interest/Hobby/Sports/NCC/NSS/related courses as per University of Delhi rules and norms

Scheme for Choice Based Credit System in
B.Sc.(Honours) Electronic Science

	CORE COURSE (14)	Ability Enhancement Compulsory Course (AECC) (2)	Skill Enhancement Course (SEC) (2)	Elective: Discipline Specific DSE (4)	Elective: Generic (GE) (4)
I	Basic Circuit Theory and Network Analysis	(English/ MIL Communication)/ Environmental Science			GE-1
	Mathematics Foundation for Electronics				
II	Semiconductor Devices	Environmental Science/(English/ MIL Communication)			GE-2
	Applied Physics				
III	Electronic Circuits		SEC -1		GE-3
	Digital Electronics and Verilog				
	C Programming and Data Structures				
IV	Operational Amplifiers and Applications		SEC -2		GE-4
	Signals and Systems				
	Electronic Instrumentation				
V	Microprocessors and Microcontrollers			DSE-1	
	Electromagnetics			DSE -2	
VI	Communication Electronics			DSE -3	
	Photonics			DSE -4	

SEMESTER-WISE SCHEDULE FOR B.Sc. (HONOURS) ELECTRONIC SCIENCE

Semester	Course Opted	Course Name	Credits
I	Ability Enhancement Compulsory Course-I	English/MIL communications/ Environmental Science	2
	Core course-I	Basic Circuit Theory and Network Analysis	4
	Core Course-I Practical/Tutorial	Basic Circuit Theory and Network Analysis Lab	2
	Core course-II	Mathematics Foundation for Electronics	4
	Core Course-II Practical/Tutorial	Mathematics Foundation for Electronics Lab	2
	Generic Elective -1	GE-1	4/5
	Generic Elective -1 Practical/Tutorial		2/1
II	Ability Enhancement Compulsory Course-II	English/MIL communications/ Environmental Science	2
	Core course-III	Semiconductor Devices	4
	Core Course-III Practical/Tutorial	Semiconductor Devices Lab	2
	Core course-IV	Applied Physics	4
	Core Course-IV Practical/Tutorial	Applied Physics Lab	2
	Generic Elective -2	GE-2	4/5
	Generic Elective -2 Practical/Tutorial		2/1
III	Core course-V	Electronic Circuits	4
	Core Course-V Practical/Tutorial	Electronic Circuits Lab	2
	Core course-VI	Digital Electronics and VHDL	4
	Core Course-VI Practical/Tutorial	Digital Electronics and VHDL Lab	2
	Core course-VII	C Programming and Data Structures	4
	Core Course-VII Practical/Tutorial	C Programming and Data Structures Lab	2
	Skill Enhancement Course-1	SEC-1	2
	Generic Elective -3	GE-3	4/5
	Generic Elective -3 Practical/Tutorial		2/1
IV	Core course-VIII	Operational Amplifiers and Applications	4
	Core Course-VIII Practical/Tutorial	Operational Amplifiers and Applications Lab	2
	Core course-IX	Signals and Systems	4
	Core Course-IX Practical/Tutorial	Signals and Systems Lab	2
	Core course-X	Electronic Instrumentation	4
	Core Course-X Practical/Tutorial	Electronic Instrumentation Lab	2
	Skill Enhancement Course-2	SEC-2	2
	Generic Elective -4	GE-4	4/5
	Generic Elective -4 Practical/Tutorial		2/1

V	Core course-XI	Microprocessors and Microcontrollers	4
	Core Course-XI Practical/Tutorial	Microprocessors and Microcontrollers Lab	2
	Core course-XII	Electromagnetics	4
	Core Course-XII Practical/Tutorial	Electromagnetics Lab	2
	Discipline Specific Elective-1	DSE-1	4
	Discipline Specific Elective-1 Practical/Tutorial	DSE-1 Lab	2
	Discipline Specific Elective-2	DSE-2	4
	Discipline Specific Elective-2 Practical/Tutorial	DSE-2 Lab	2
VI	Core course-XIII	Communication Electronics	4
	Core Course-XIII Practical/Tutorial	Communication Electronics Lab	2
	Core course-XIV	Photonics	4
	Core Course-XIV Practical/Tutorial	Photonics Lab	2
	Discipline Specific Elective-3	DSE-3	4
	Discipline Specific Elective-3 Practical/Tutorial	DSE-3 Lab	2
	Discipline Specific Elective-4	DSE-4	4
	Discipline Specific Elective-4 Practical/Tutorial	DSE-4 Lab	2
Total Credits			140

CORE COURSE(C): (Credit: 06 each) (1 period/week for tutorials or 4 periods/week for practical)

1. Basic Circuit Theory and Network Analysis (4+4)
2. Mathematics Foundation for Electronics (4+4)
3. Semiconductor Devices (4+4)
4. Applied Physics (4+4)
5. Electronic Circuits (4+4)
6. Digital Electronics and Verilog (4+4)
7. C Programming and Data Structures (4+4)
8. Operational Amplifiers and Applications (4+4)
9. Signals and Systems (4+4)
10. Electronic Instrumentation (4+4)
11. Microprocessors and Microcontrollers (4+4)
12. Electromagnetics (4+4)
13. Communication Electronics (4+4)
14. Photonics (4+4)

Discipline Specific Electives (DSE): (Credit: 06 each) (4 papers to be selected) - DSE 1-4

1. Power Electronics (4+4)
2. Numerical Analysis (4+4)
3. Modern Communication Systems (4+4)
4. Semiconductor Fabrication and Characterization (4+4)
5. Electrical Machines (4+4)
6. Basic VLSI Design (4+4)

7. Digital Signal Processing (4+4)
8. Control Systems (4+4)
9. Computer Networks (4+4)
10. Nanoelectronics (4+4)
11. Embedded Systems (4+4)
12. Biomedical Instrumentation (4+4)
13. Transmission Lines, Antenna and Wave Propagation (4+4)
14. Dissertation (4+4)

Skill Enhancement Course (SEC) (02 papers) (Credit: 02 each) - SEC1 to SEC2

1. Design and Fabrication of Printed Circuit Boards (4)
2. Robotics (4)
3. Mobile Applications Development (4)
4. Internet Technologies (4)
5. Programming with LabVIEW (4)

Other Discipline - GE 1 to GE 4

1. Mathematics
2. Computer Science
3. Physics
4. Biomedical Science
5. Chemistry
6. Commerce

Any other discipline of Choice

Generic Elective Papers (GE) for other Departments/Disciplines: (Credit: 06 each)

1. Electronic Circuits and PCB Designing (4+4)
2. Digital System Design (4+4)
3. Instrumentation (4+4)
4. Practical Electronics (4+4)
5. Communication Systems (4+4)
6. Microprocessor and Microcontroller Systems (4+4)
7. Consumer Electronics (4+4)

Important:

1. The size of the practical group for practical papers is recommended to be 12-15 students.