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Estd. 1916

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Crawford Hall, Mysuru- 570 005

Dated: 28.05.2016

No.AC.2(S)/384/14-15

01-6

NOTIFICATION

Sub: Introduction of soft skill subject in Electronics in UG courses.

Ref: 1. Decision of the Faculty of Science & Technology Meeting held on
16.02.2016.

2. Decision of the Academic Council meeting held on 29-03-2016.

The Board Of Studies in Electronics (UG) which met on 13-11-2015 has resolved
to introduction of soft skill subject in Electronic for the academic year 2016-17.

The Faculty of Science and Technology and the Academic Council at their
Meetings held on 16.02.2016 and 29.03.2016 respectively have also approved the
above said proposal and the same is hereby notified.

A Copy of the modified syllabus is annexed.

The concerned may download the modified contents in the University Website
i.e., www.uni-mysore.ac.in

Draft approved by the Registrar

dis 01/6
Deputy Registrar (Academic)

To:

- 1) The Dean, Faculty of Science & Technology, DOS in Earth Science, Manasagangotri, Mysore.
- 2) The Registrar (Evaluation), University of Mysore, Mysore.
- 3) The Chairperson, Board of Studies / Department of Studies in Electronics, PG Centre of Hassan.
- 4) The Director, College Development Council, Maharaja's College Centenary Building, University of Mysore, Mysore.
- 5) The Coordinator, Directorate of Online & Outreach programme, Parakalamatta, MGM.
- 6) The Principals of the Affiliated Colleges running UG Programme – Electronic Subject.
- 7) The Deputy/Assistant Registrar/Superintendent, Academic Section, UOM, Mysore.
- 8) The Deputy/Assistant Registrar/Superintendent (Evaluation), UOM, Mysore.
- 9) The P.A. to the Vice-Chancellor/Registrar/Registrar (Evaluation), UOM., Mysore.
- 10) Office file.

Science Notification-2016-17.Ja



UNIVERSITY OF MYSORE

BoS in Electronics (UG)

Proposed Soft Skill subject in Electronics
for
UG courses from 2016-2017 onwards

Awareness of Electronics – A must for the new generation

In the present day to day life, we can not avoid the use of electronic equipments and appliances. Hence an awareness is required for the new generation regarding basics of electronics and its applications, for example, use of Electronic Voting Machine(EVM). The following criterion makes it more clear.

1. Helps to know the do's and don't do's .
2. Avoids unnecessary fear.
3. Creates skill in small repairs.
4. Ideas for using the best method.
5. Time and money can be saved if there is awareness.
6. Makes us more self reliant without depending on others for simple errors.
7. Skill in replacement of fuse, plugs, sockets and so on.
8. Ideas for including electronics in the exhibition models.

SYLLABUS

APPLICATION OF ELECTRONICS

SOFT SKILL PAPER FOR BSc

(TO BE TAUGHT BY ELECTRONICS TEACHERS ONLY)

CODE: ES. 1

THEORY: 2 Hrs/Week

PRACTICALS : 4 Hrs/Week

UNIT 1: BASIC ELECTRONICS

14 Hrs

Introduction to circuit components- Resistors, capacitors, inductor, transformer, diode and transistor.

LED and LCD display, relay, fuse, switches, wires. AC and DC applications. Inverter and UPS. Introduction to IC technology, Mobile technology, GPS.

UNIT 2: APPLIED ELECTRONICS

14 Hrs

Electronic instruments: DMM, CRO, Biomedical instruments-ECG, EEG, EMG, pH meter, X-ray, sphygmomanometer, Glucometer, Digital thermometer. Sensor-OMR, MICR, Scanner, Barcode reader.

Modem, EDUSAT, E-waste management, PCB.

Reference Books:

1. *Basic Electronics-Solid State – B L Theraja - S Chand And Company Ltd*
2. *Electronic Devices And Circuit Theory – Robert L Boylestad And Louis Nashelsky (PHI)*

PRACTICALS

1. Identification of circuit components.
2. Use of general tool in lab.
3. Safety measures in the lab.
4. Practice of soldering and de-soldering the circuits.
5. Use of DMM in measurement of V,I and R.
6. Construction of switch boards and extension boards.
7. Different types of IC and their pin configurations.
8. Study of wiring of two way switch.
9. Construction of regulated power supply.
10. Construction of emergency light.

11. Servicing mixer, grinder,...
12. Servicing of mobile.
13. Awareness about electronic voting machine (EVM).
14. Study of adopter and charger.

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APPLICATION OF ELECTRONICS

QUESTION PAPER PATTERN - MARKS DISTRIBUTION

Total marks = Theory paper marks + IA marks

$$100 = 80 + 20$$

1. IA -20 marks

- (i) Test = 10 marks**
- (ii) Practical Assignment = 10 marks**

2. Theory paper- 80 marks

- 1. 2 marks - 5 multiple choice questions- 2X5 = 10 marks.**
- 2. 3 marks - 12 questions- total 10 to be answered 3X10 = 30 marks.**
- 3. 5 marks -6 questions- total 4 to be answered. 5X4 = 20 marks.**
- 4. 10 marks -3 questions- total 2 to be answered. 10X2 = 20 marks.**

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SYLLABUS FUNDAMENTALS OF ELECTRONICS

SOFT-SKILL PAPER FOR B.Sc

(Including Electronics students)
(TO BE TAUGHT BY ELECTRONICS TEACHERS ONLY)

CODE: ES. 2

THEORY: 2 Hrs/Week

PRACTICALS : 4 Hrs/Week

UNIT 1: INTRODUCTION TO ELECTRONICS

14 Hrs

Electronic components- Resistors, capacitors, inductor, transformer, diode, transistor.
Mechanical components - Relay, Fuse, Switches, Wires. LED and LCD displays, AC and DC applications. Adopter and SMPS. Inverter and UPS. OFC applications and advantages, IC 555 –applications, Generations of modern technology.

UNIT 2: ADVANCE ELECTRONICS

14 Hrs

Measuring instruments: DMM, CRO, Biomedical instruments - ECG, EEG, EMG, pH meter, X-ray, sphygmomanometer, Glucometer, Digital thermometer. Sensors - OMR, MICR.
Scanners - Barcode reader and Biometric scanner.
Embedded system – Smart card, SIM card, CCTV camera, ATM,
Electronic voting Machine (EVM), E-waste management, Study of PCB making.

Reference Books:

1. *Basic Electronics-Solid State – B L Theraja - S Chand And Company Ltd*
2. *Electronic Devices And Circuit Theory – Robert L Boylestad And Louis Nashelsky (PHI)*

PRACTICALS

1. Identification of circuit components.
2. Use of general tool in lab.
3. Safety measures in the lab.
4. Practice of soldering and de-soldering the circuits.
5. Use of DMM in measurement of V,I and R.
6. Construction of switch boards and extension board.
7. LED flash using IC 555 timer
8. Study of wiring of two way switch.
9. Construction of regulated power supply.

10. Comparisons of energy consumption –using bulbs.
11. Servicing mixer, grinder,...
12. Servicing of mobile.
13. Study of electronic voting machine.
14. Construction of adopter and charger.

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FUNDAMENTALS OF ELECTRONICS

QUESTION PAPER PATTERN - MARKS DISTRIBUTION

Total marks = Theory paper marks + IA marks

$$100 = 80 + 20$$

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3. 5 marks -6 questions- total 4 to be answered. 5X4 = 20 marks.
4. 10 marks -3 questions- total 2 to be answered. 10X2 = 20 marks.

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Model Question Paper

APPLICATION OF ELECTRONICS SOFT SKILL PAPER FOR BSc

Code: ES. 1
TIME: 3 HOURS

MAX.MARKS :80 marks

A. Answer all the questions.

5X2=10 marks

1. Expand OMR
(a) Optical Mark Recognition (b) Optical Mark Reader
(c) Object Marking Ray (d) Optical Made Record
2. What is .ECG
(a) Electron Common Gram (b) Electro cardiogram
(c) Electro Cathode Gama (d) Electro cardiology
3. LED is the abbreviation for
(a) Lighting Earth Device (b) Light Emerging Device
(c) Light Emitting Diode (d) Light Emitted Detector
4. The expanded form of IC is
(a) Integrated Circuit (b) International Conference
(c) Integrated company (d) Integrated Course
5. CRO means
(a) Contract Research Organization (b) Cathode Ray Oscilloscope
(c) Common Ray Optic (d)Cathode Ray Organization.

B. Answer any TEN of the following.

10X3=30 marks

6. Mention the types of resistor.
7. What is a fuse? Write symbol and use
8. What are the uses of LED.
9. Mention the advantages of GPS.
10. Differentiate between AC and DC.
11. Mention different types of switches.
12. What are the uses of CRO.
13. Mention any three biomedical measuring instruments.
14. Write a note on E-waste management.
15. What is MODEM?
16. What are the uses of Bar code reader?
17. Write a note on EDUSAT

C. Answer any Four of the following.

4X5=20 marks

18. What is a transformer? Mention its types with symbol.
19. Write a note on types of wires.
20. Write a note IC technology.
21. Write a note on uses of PCB.
22. Write a note on scanners.
23. Mention the application of DMM.

D. Answer any TWO of the following.
(Practical Lab related questions)

2X10=20 marks

24. Explain soldering methodology.
25. What are the safety precautions to be followed in the electronics laboratory.
26. Explain the block diagram of EVM.

Model Question Paper

FUNDAMENTALS OF ELECTRONICS SUBSIDIARY PAPER FOR B.Sc. and B.A. (Including Electronics students)

Code: ES. 2
TIME: 3 HOURS

MAX.MARKS :80 marks

A. Answer all the questions.

5X2=10 marks

1. OMR stands for
 - (a) Optical Mark Recognition
 - (b) Optical Mark Reader
 - (c) Object Marking Ray
 - (d) Optical Made Record
2. .Write the expanded form of SIM
 - (a) Smart Identity mode
 - (b) Subscriber Identity Module
 - (c) Subscriber image Mode
 - (d) Smart Image Module
3. GPS means
 - (a) Global Positioning System
 - (b) Global Point System
 - (c) Global Picture Screen
 - (d) Gravity Position System
4. Expand .ATM
 - (a) Automated Time Machine
 - (b) All time money
 - (c) Automobile Time Machine
 - (d) Automated Teller Machine
5. CRO is the abbreviation for
 - (a) Contract Research Organization
 - (b) Cathode Ray Oscilloscope
 - (c) Common Ray Optic
 - (d) Cathode Ray Organization.

B. Answer any ten of the following.

10X3=30 marks

6. Mention the types of capacitor.
7. Write a note on relay.
8. Compare LED and LCD.
9. Mention the advantages of OFC.
10. What is a transformer? Write its symbol
11. Write a note on SMPS.
12. What are the uses of DMM.
13. Mention any three biomedical measuring instruments.
14. Write a note on embedded system.
15. Write a note on E-waste management.
16. Write a note on MICR.
17. List the advantages of CCTV cameras.

C. Answer any Four of the following.

4X5=20 marks

18. Write a note on types of wires.
19. Write a note on generation on modern technology.
20. Write a note on MCB and Fuse.
21. What are the applications of CRO.
22. Write a note on SIM card.
23. Write a note on scanners.

D. Answer any TWO of the following.

2X10=20 marks

(Practical Lab related questions)

24. Explain soldering methodology.
25. Explain how 2-way switch is constructed.
26. Explain the block diagram of EVM.

Estimation of Budget for Practical Lab Establishment

Lab Equipment	Amount (₹)
(1) Electronic Components -Resistor, Capacitor.	500=00
(2) CRO and DMM.	20,000=00
(3) Soldering gun and accessories.	1,000=00
(4) Switch Board Components.	1,000=00
(5) IC's and Trans forms.	2,000=00
(6) Mixer or grinder-----	2,000=00
(7) Tube light wiring set.	1,000=00
(8) EVM(electronic voting machine assemble kit)	5,000=00
(9) Different types of bulb.	1,000=00
(10) Tool kit.	5,000=00
(11) DC power supply.	6,000=00
(12) Accessories.	5,000=00
(13) Miscellaneous.	500=00
Total	50,000 =00

B.Sc., Degree with the following Combination

- 1 BBM Biochemistry / Botany / Microbiology
- 2 BBZ Biochemistry / Botany / Zoology
- 3 BZF Biochemistry / Zoology / Food Science & Nutrition
- 4 BMBT Biochemistry / Microbiology / Biotechnology
- 5 CSBT Chemistry / Sericulture / Biotechnology
- 6 CZBT Chemistry / Zoology / Biotechnology
- 7 CBBT Chemistry / Botany / Biotechnology
- 8 CBtEn Chemistry / Biotechnology / Environment Science
- 9 CBEr Chemistry / Botany / Earth Science & Resource Management
- 10 CBF Chemistry / Botany / Food Science & Nutrition
- 11 CBM Chemistry / Botany / Microbiology
- 12 CBZ Chemistry / Botany / Zoology
- 13 CZM Chemistry / Zoology / Microbiology
- 14 CZS Chemistry / Zoology / Sericulture
- 15 MCSer Mathematics / Computer Science / Earth Science & Resource Management
- 16 MSCS Mathematics / Statistics / Computer Science
- 17 PCM Physics / Chemistry / Mathematics
- 18 PEM Physics / Electronics / Mathematics
- 19 PMCS Physics / Mathematics / Computer Science
- 20 PMEr Physics / Mathematics / Earth Science & Resource Management
- 21 PMS Physics / Mathematics / Statistics
- 22 ZBEr Zoology / Botany / Earth Science & Resource Management
- 23 CErEn Chemistry / Earth Science & Resource Management / Environment Science

THANK YOU