



Ramakrishna Mission Vidyamandira

P.O. Belur Math, Dist. Howrah - 711202, West Bengal

A Residential Autonomous College affiliated to Calcutta University
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Notice No. 7/BOS-ELTG/

Date: 10th August 2017

Seventh meeting of Board of Studies

The seventh meeting of the Board of Studies for UG Courses in Electronics (General) will be held on 16th August, 2017, Wednesday at 10:00 am at Electronics department of our college to discuss the following agenda:

- Confirmation of the proceedings of the sixth meeting.
- Reformation of syllabus for all semesters.
- Miscellaneous.

Therefore we request you to attend the meeting as an Industry personal.

With regards,

Yours sincerely

Avishek Barman
(Avishek Barman)

Head of the Department

Swami Shastrajnananda
(Swami Shastrajnananda)

Principal

Time: 10 a.m Date: 16/8/17

Members Present:

- 1.
2. Anshul Barman
3. Sujinam Sarmar
4. Sanatan Chattopadhyay (Dept. of Electronic Sci.)
5. Rajib Chatterjee (Applied Optics & Photonics)
6. Subhankar Sen.
7. Sarbajit Manna
8. Ranjit Das.
9. Annu Mondal

Minutes of the meeting:

1. BOS members proposed CBCS based syllabus for the Electronics (hon) course as per guideline of UGC to be followed from next academic session, if possible.
2. Massive reconstruction of syllabus is needed for the on going academic session.
3. Syllabus for all four SEMs are modified.
4. According to UGC guidelines 40 hour class should be allotted for 50 marks course.
5. Modification of the syllabus carried out is mentioned in the following:
 - (A) For SEM I (ELTG101) → TWO UNITS (A & B)
 - i) UNIT A - circuit components & network
⇒ (newly added)

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15
40.

ii) UNIT B - Physics of semiconductor devices

⇒ "Semiconductor Basics" of previous syllabus is renamed as "Semiconductors", where 'Electron scattering', 'Effective mass' were replaced by 'Drift & Diffusion current' & 'Current density'. $\parallel \frac{1}{40}$

⇒ In "PN Junction Diode" section 'Energy Band Diagram of PN' is added. Also 'Zener Diode as a voltage regulator' is added. 'Dynamic characteristics of diode' & 'Diode as a rectifier' are also added. $\parallel \frac{3}{40}$

⇒ In "Bipolar Junction Transistor" section 'formation of BJT' is added. $\parallel \frac{1}{40}$

⇒ In "Field Effect Transistor" section 'Nmos' & 'Pmos' are added. 'FET parameters' & 'Advantages of FET' are also considered. $\parallel \frac{2}{40}$

⊗ Total change of syllabus in ELTU101 (TH) / ELTGPI $\left(\frac{15}{40} + \frac{1}{40} + \frac{3}{40} + \frac{1}{40} + \frac{2}{40} \right) \times 100\%$
 $= \left(\frac{22}{40} \right) \times 100\% = 55\%$

For SEM1 (ELTU102) → Practical / ELTGPI

⇒ 'JFET, MOSFET & Solar Cell' are replaced by 'Circuit Theory, RLC, Gates using analog components & Zener Voltage regulator'.

⊗ Total change in ELTU102 (PR) = $\frac{4}{9} \times 100\% = 44.4\%$

(b). For SEM 2 (ELTCR 201) \rightarrow TWO UNITS (A & B).

(i) UNIT A - Transistor circuit - Design & applications:

\Rightarrow 'Transistor biasing' nearly added $\frac{6}{40}$

\Rightarrow 'Amplifiers' totally modified. $\frac{5}{40}$

\Rightarrow 'Feedback' unchanged.

\Rightarrow In "Oscillators" section 'Phase-shift Osc.' is changed by 'Wien-bridge'. $\frac{1}{40}$

\Rightarrow "Logic families" nearly added. $\frac{2}{40}$

(ii) UNIT B - Analog integrated circuits - OPAMP & Timer:

\Rightarrow In "OPAMP" section 'Input/Output offset & bias voltage & current' is added. Also, 'virtual short, unity gain buffer, CA3130' are proposed. $\frac{2}{40}$

\Rightarrow ~~MC~~ "Multivibrator" of old syllabus is replaced by "Timer IC 555" where 'Bistable Multivibrator; pulse generator, rectangular wave generator' are added. $\frac{2}{40}$

⊗ Total change of syllabus in ELTCR 201 (TH) / ELTG P2T

$$\left(\frac{6}{40} + \frac{5}{40} + \frac{1}{40} + \frac{2}{40} + \frac{2}{40} + \frac{2}{40} \right) \times 100\%$$

$$= \frac{23}{40} \times 100\% = 57.5\%$$

for SEM 2 (ELTCR 202) \rightarrow Practical. / ELTG P2P

\Rightarrow "Wien bridge osc., astable, monostable, bistable multivibrator using IC 555" are proposed.

⊗ Total change in ELTCR 202 (PR) = $\frac{4}{9} \times 100\% = 44.4\%$

P.T.O.

(c) For SEM 3 (ELT02301) → THREE UNITS (A, B & C)

i) UNIT A - Electronic Instrumentation.

⇒ Accuracy, Precision, Resolution, Sensitivity are removed

⇒ "Meters" is added 5/10

⇒ 'DSO' is added in "Cathode Ray Oscilloscope". 5/10

⇒ 'Thermocouple & Thermistor' is added in "Sensors & Transducers". 5/10

ii) UNIT B - IC Design Technology.

⇒ "Logic families" is moved to SEM 2

⇒ 'VLSI Design Steps', 'CMOS process' are added. 5/10

⇒ "Hardware Description Language" is removed.

iii) UNIT C - Analog Communication. (Newly added) 15/40

⊗ Total change of syllabus in ELT02301 (TH) / ELT02P3T

$$\left(\frac{4}{40} + \frac{1}{40} + \frac{2}{40} + \frac{4}{40} + \frac{15}{40}\right) \times 100\%$$

$$= \frac{26}{40} \times 100\% = 65\%$$

For SEM 3 (ELT02302) → 'P-Spice' is added.

⊗ Total change of syllabus in ELT02302 (PR) / ELT02P3P

$$\frac{1}{2} \times 100\% = 50\%$$

P.T.O.

(d). For SEM 4 (ELTOR 401) → TWO UNITS (A & B).

i) UNIT A - Digital com. & comm. Tech.

⇒ 'Radio wave comm.' is added

ii) UNIT B - Optoelectronics (already added)

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⊗ Total change in ELTOR 401 (TH) / ELTOR 41 T

$$= \frac{23}{40} \times 100\% = 57.5\%$$

For SEM 4 (ELTOR 402) → No change.

Total change of ELTOR (TH)

$$\left[\left(\frac{22}{40} + \frac{23}{40} + \frac{26}{40} + \frac{23}{40} \right) / 4 \right] \times 100\%$$

$$= \frac{23.5}{40} \times 100\% = 58.75\%$$

Total change of ELTOR (PR)

$$\left[\left(\frac{4}{9} + \frac{4}{9} + \frac{1}{2} + 0 \right) / 4 \right] \times 100\%$$

$$= 34.72\%$$

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