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C14–EE–405

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BOARD DIPLOMA EXAMINATION, (C–14)

MARCH/APRIL—2017

DEEE—FOURTH SEMESTER EXAMINATION

ELECTRONICS—II

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

Instructions : (1) Answer **all** questions.

(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Define *(a)* feedback and *(b)* feedback factor. 3

2. List the applications of emitter follower. 1+1+1

3. State Barkhausen criterion for sustained oscillations. 3

4. Draw the circuit diagram of UJT relaxation oscillator. 3

5. State the reasons for not implementing differential amplifier with discrete components. 3

6. Draw the PIN diagram of 555 IC. 3

7. Define modulation and demodulation. 3

8. Give the equation and waveform for AM wave. 3

9. Explain the necessity of time-base waveform in CRO. 3

10. State the need for A/D and D/A conversion. 3

PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

(2) Each question carries **ten** marks.

(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Derive the expression for voltage gain of negative feedback and list the advantages of negative feedback. 6+4=10

12. *(a)* Explain the need of power amplifier. 4

(b) Draw the block diagram of four types of feedback amplifiers. 6

13. Explain the working of Hartley oscillator with the help of circuit diagram. 4+6=10

14. Draw and explain the working of transistor bistable multivibrator circuit. 4+6=10

15. Explain the operation of differential amplifier with circuit diagram. 4+6=10

16. Explain the working of astable multivibrator using 555 IC and draw the output waveforms. 4+4+2=10

17. Explain the effect of over-modulation and under-modulation with waveforms. 5+5=10

18. Explain the working of ramp type digital voltmeter with the help of block diagram. 4+6=10

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