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C16-EE–305

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BOARD DIPLOMA EXAMINATION, (C-16)

AUGUST/SEPTEMBER—2021

DEEE - THIRD SEMESTER EXAMINATION

ELECTRONICS - I

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

PART—A

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 P-type and N-type semiconductors. 1½+1½

2. Mention manufacture specifications of zener diode. 1½+1½

3. Write the advantages of bridge rectifier over center tapped rectifier. 1+1+1

4. Write different types filters. 1+1+1

5. List applications of opto coupler. 1+1+1

6. List advantages of FET over BJT. 1+1+1

7. List the causes of instability of biasing in transistor amplifier. 1+1+1

8. What is the necessity of cascading of amplifier? 3

9. Draw the block diagrams of voltage series, voltage shunt current series and current shunt feedback amplifiers. 1+1+1

10. Distinguish between voltage and power amplifier. 1+1+1

PART—B

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

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

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

11. Explain the working of NPN transistor. 10

12. Explain the working of center tapped full wave rectifier with neat circuit diagram. 10

13. Explain the constructional details of UJT and draw its diode equivalent circuit. 5+5

14. Explain the construction and working of photo diode. 5+5

15. Explain about collector to base bias circuit and derive stability factor. 5+5

16. *(a)* Explain the need for stabilization in transistor biasing. 3

(b) List advantages and disadvantages of RC coupled amplifier. 7

17. Explain transformer coupled amplifier with its circuit diagram and its frequency response. 10

18. Explain the performance characteristics of emitter follower. 10

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