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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

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- 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.

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|-------|--|-----|
| 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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