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C14-EC-302

4238

BOARD DIPLOMA EXAMINATION, (C-14)
OCT/NOV—2018
DECE—THIRD SEMESTER EXAMINATION
ELECTRONIC DEVICES AND CIRCUITS

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. Mention the three different configurations of a transistor.
2. Define stability factor (S) of CE configuration.
3. Classify amplifiers based on period of conduction.
4. Draw the circuit diagram of two-stage RC coupled amplifier.
5. List the merits of negative feedback amplifiers.
6. List any three distortions in power amplifiers.
7. Draw the equivalent circuit of a crystal.
8. List the applications of photodiode.

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9. Write any three ^{*} differences between JFET and MOSFET.
10. How a transistor works as a switch in CE configuration?

PART—B

10×5=50

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

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

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

11. (a) Explain the construction and working of n-channel JFET.
(b) Draw the drain characteristics of n-channel JFET.
12. Draw and explain the potential divider method of biasing.
13. Draw and explain the operation of double tuned amplifier and draw its frequency response.
14. Draw and explain the operation of Colpitts oscillator.
15. (a) List the merits and demerits of RC oscillators.
(b) Draw the block diagrams of voltage series, current shunt feedback amplifiers.
16. Draw and explain the principle of operation of CMOSFET.
17. Construction and working of Varactor diode and list its applications.
18. Draw and explain the operation of transistor series voltage regulator.
