



C09-EC-402

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**BOARD DIPLOMA EXAMINATION, (C-09)
APRIL/MAY—2015
DECE—FOURTH SEMESTER EXAMINATION
ELECTRONIC CIRCUITS—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. State the necessity of heat sink for a power transistor.
2. What is meant by positive feedback?
3. What is a class C amplifier?
4. State the reasons for instability in oscillators.
5. List the merits of crystal oscillators.
6. List the applications of current time base generator.
7. A transistor works as a switch in CE mode. Justify.

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8. Define the capture range of a PLL.
9. Classify different types of optoelectronic devices.
10. Mention the applications of LED.

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. Explain the operation of class A amplifier with resistive load at collector and derive an expression for its efficiency.
12. Draw the circuit of class B push-pull amplifier and derive an expression for its efficiency.
13. (a) List the demerits of RC oscillators and LC oscillators. 4
(b) Draw and explain the working of Hartley oscillator. 6
14. Draw and explain the working of Wien bridge oscillator circuit.
15. Draw and explain the working of a transistor astable multivibrator with waveforms.
16. Draw and explain the working of a Schmitt trigger circuit with waveforms.
17. Explain the working of astable multivibrator using 555 IC.
18. Draw the block and pinout diagram of a 555 timer IC and explain its operation.
