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Et-304/EEtE/3rd Sem/M/2013

**ELEMENTS OF ELECTRONICS
ENGINEERING**

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer any *five* questions.

1. (a) How resistors are colour coded ? Write the colour coding table. 3+5=8
- (b) Find the value of range of the resistor whose band of sequence is as given below :
Green / Blue / Yellow / Gold. 6
2. (a) Describe the construction of a vacuum diode with suitable diagram. 6
- (b) Describe how control grid controls the operation of a vacuum triode. 8

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3. (a) What is a PN junction and how PN junction can be formed ? Describe with diagrams. $1+7=8$
- (b) Classify the semiconductor and discuss. 6
4. (a) Describe with circuit diagram the constructional details and operation of a full wave bridge rectifier. 7
- (b) Describe a push-pull amplifier. What is their use ? 7
5. (a) Draw CE, CB and CC configuration of transistor. Prove that $\beta = \alpha / (1 - \alpha)$. 6
- (b) With a neat circuit diagram, explain the working of transformer coupled amplifier. 8
6. (a) Describe the different types of power amplifiers. 8
- (b) What are the advantages of negative feedback ? 6

7. (a) Describe with diagram the different types of controls used in a cathode ray tube. 8

(b) How will you measure the frequency with the help of a CRO ? 6