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3rd Sem / Electrical

Subject :Analog & Digital Electronics

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 The temperature coefficient of semiconductor is (CO1)

a) Positive b) Zero

c) negative d) None of the above

Q.2 A transistor is a _____ operated device. (CO2)

a) Current

b) Voltage

c) Both current and voltage

d) None of the above

Q.3 How many diodes does a single-phase Bridge Rectifier consists of? (CO1)

a) one b) two

c) three d) four

Q.4 A byte is a string of_____ bits. (CO3)

a) 2 b) 4

c) 6 d) 8

Q.5 A NAND gate is equivalent to an AND gate followed by_____ gate (CO3)

a) OR b) NOT

c) NOR d) AND

Q.6 The number of select line for 8:1 MUX are _____. (CO4)

a) 6 b) 4

c) 2 d) 3

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 The process of adding impurities is called_____. (CO1)

Q.8 JFET stands for_____ (CO2)

Q.9 Draw symbol of pnp transistor. (CO2)

Q.10 101001 + 100011 = _____. (CO3)

Q.11 The minimum number of flip flops required for a decade counter is_____ . (CO4)

Q.12 PISO stands for_____. (CO4)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 Difference between P and N type semiconductors. (CO1)

Q.14 Draw and explain V-I characteristics of a p-n junction diode. (CO1)

Q.15 What is need of filter circuit. Explain LC filter circuit. (CO1)

Q.16 What is the significance of Ripple factor. (CO2)

Q.17 Compare JFET and BJT. (CO2)

Q.18 Do the following conversions (CO3)

a) $(75)_{10} = (?)_2$

b) $(7B2)_{16} = (?)_8$

Q.19 Explain NOR gate with truth table. (CO3)

Q.20 Discuss about Full adder circuit. (CO4)

Q.21 Write a short note on 8:1 MUX. (CO4)

Q.22 Write a short note on JK FF. (CO4)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain in detail full wave bridge rectifier circuit and its advantages and disadvantages. (CO1)

Q.24 Explain in detail working of 3 bit synchronous / asynchronous counter. (CO4)

Q.25 Write short note on the following .

a) NAND gate as universal gate. (CO3)

b) Transistor as an amplifier in CE configuration. (CO2)