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DDD-1720

B. Sc. (I.T.) (Sem. II) Examination

March / April - 2016

Electronics & Digital Communication

Time : **3** Hours] [Total Marks : **70**

Instruction :

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ B. Sc. (I.T.) (SEM. 2)

Name of the Subject :

☛ ELECTRONICS & DIGITAL COMMUNICATION

☛ Subject Code No. : 1 7 2 0 ☛ Section No. (1, 2,.....) : NIL

Seat No. :

Student's Signature

1 (a) Answer the following short questions in one or two sentences : (any six) **6**

(i) Write definition of potential difference.

(ii) What is barrier potential in diode ?

(iii) What is reactance of capacitor ?

(iv) Explain light dependant resistor.

(v) Explain capacitor internal structure.

(vi) Write color band for 43000 ohm +/- 5% resistance value.

(vii) Calculate resistance values from color code of the resistance.
green, blue, orange, silver

(b) Answer the following questions in detail : (any two) **12**

(i) (a) Explain side band concept in Amplitude modulation. **3**

(b) Write short note on Norton theorem. **3**

(ii) (a) Write short note on Half wave rectifier. **3**

(b) Explain internal structure of NPN transistor. **3**

(iii) (a) Explain avalanche breakdown in diode. **3**

(b) Calculate resistance values from color code of the resistance. **3**

(i) green, blue, orange, silver

(ii) red, gray, white, gold

(iii) orange, red, blue, silver

2 (a) Answer the following questions in detail : (any four) **4**

(i) Write Ohms law

(ii) Write measurement unit of capacitor.

(iii) What is resonance frequency ?

(iv) What is magnetic flux density ?

(v) List out active and passive electronic components.

(b) Answer the followimg questions in detail : (any two) **14**

(i) Write short note on extrinsic semiconductor.

(ii) Write short note on FM modulation.

(iii) Write short note on super heterodyne receiver.

3 (a) Answer the following questions in detail : (any four) **4**

(i) Write Kirchhoff's current law.

(ii) Explain difference between conductor and insulator.

(iii) Why filter is use in electronic circuits ?

(iv) List out different applications of LED.

(v) Write definition of inductance.

(b) Answer the following questions in detail : (any two) **14**

(i) Explain internal construction of P-N junction diode. Draw diode output characteristic graph and explain reverse biased operation.

(ii) Explain internal construction of silicon control rectifier and its operation with the help of characteristics.

(iii) (a) Write short note on Kirchhoff's Voltage Low (KVL). **4**

(b) Draw Bridge full wave rectifier circuit diagram, input waveform and output waveforms. **3**

4 (a) Find out true or false from given statements. **4**

(i) Thermistor is one type of resistor.

(ii) BJT three terminal names are Anode, emitter and Gate.

(iii) Ampere is the measurement unit of power.

(iv) Copper is a insulating material.

(b) Answer the following questions in detail : (any two) **12**

(i) Write short note on transmission losses.

(ii) Write short note on ASK, FSK and PSK.

(iii) Explain voltage regulator circuit using Zener diode.
