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2E1016

2E1016

B. Tech. I Year II Semester (Old Back) Examination, June/July-2011

Information Technology

Time : 3 Hours

Maximum Marks : 80
Min. Passing Marks : 24

Instructions to Candidates:

*Attempt overall 5 questions selecting **one** question from **each** unit. All questions carry **equal** marks.*

Unit - I

1. a) Define Information. Give differences between data and information. **(8)**

   b) What is data compression? Explain techniques for data compression. **(8)**

OR

What are data types? Explain various data types in detail, with example. **(16)**

Unit - II

2. a) What is Internet? Explain search engine and web browser. **(8)**

   b) Define e-commerce. Explain various security threats to e-commerce. **(8)**

OR

a) What is EDI? Explain its benefits. **(8)**

b) Explain followings:-

   i) Digital signature

   ii) Smart Card technology **(4+4=8)**

Unit - III

3. a) Give differences among LAN, WAN and MAN. **(8)**

   b) Explain OSI reference model. **(8)**

a) Explain various network topologies and compare them. **(8)**

b) Explain Client server architecture with example. **(8)**

Unit - IV

4. a) Define operating system. Discuss the need of operating system. **(8)**

b) Explain followings :-

   i) Batch processing

   ii) Multi programming. **(4+4=8)**

OR

a) What is real time system? Explain time sharing. **(8)**

b) Explain functions of operating system. **(8)**

Unit - V

5. a) What is application software? Explain its categories. **(8)**

b) What do you mean by 'user interface'? Explain benefits of GUI with examples. **(8)**

OR

a) Explain Spread Sheet. **(8)**

b) Explain features and benefits of data base software. **(8)**

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2E1015

B. Tech. I Year II Semester (Old Back) Examination, June/July-2011
Instrumentation

Time : 3 Hours

Maximum Marks : 80

Min. Passing Marks : 24

Instructions to Candidates:

*Attempt overall **five** questions, selecting **one** question from **each** unit. All questions carry **equal** marks.*

Unit - I

1. a) A circuit was tuned for resonance by eight different students, and the values of resonant frequency in KHz were recorded as 532, 548, 543, 535, 546, 531, 543 and 536. Calculate

    i) Average deviation

    ii) Standard deviation   (8)

    b) Define the following for Gaussian distribution of data:

    i) Precision index

    ii) Probable error   (8)

OR

    a) The following 10 observations were recorded when measuring a voltage: 41.7, 42.0, 41.8, 41.9, 42.0, 42.0, 42.1, 41.9, 42.5 and 41.8 volt. Find

    i) The standard deviation

    ii) The probable error of one reading   (8)

    b) Explain the following systematic errors:-   (8)

    i) Instrumental error

    ii) Environmental error

Unit - II

2. a) Explain the ohm meter part of an electronic multimeter. Describe how R×1, R×10 and R × 100 ranges are obtained in this instrument. **(8)**

    b) Draw and explain the block diagram of vector impedance meter. **(8)**

OR

    a) Explain the construction and working principle of Ramp type digital voltmeter with neat sketch. **(8)**

    b) What are the importances of shielding and grounding techniques for measuring basic parameters. Explain these techniques in brief. **(8)**

Unit - III

3. a) A CRT has an anode voltage of 2000V and parallel deflecting plates 2 cm long and 5mm apart. The screen is 30 cm from the centre of the plates. Find the input voltage required to deflect the beam through 3 cm. The input voltage is applied to the deflecting plates through amplifiers having an overall gain of 100. **(8)**

    b) Explain the synchronization technique of vertical input signal to its sweep generator for the CRO. **(8)**

OR

    a) An electrically deflected CRT has a final anode voltage of 2000V and parallel deflecting plates 1.5 cm long and 5mm apart. If the screen is 50cm from the centre of deflecting plates, find

    i) The deflection sensitivity of the tube

    ii) The deflection factor of the tube **(8)**

    b) What do you mean by CRO probes. Explain its significance in the measurement by CRO. **(8)**

Unit - IV

4. a) What are the various conditions of oscillators for proper oscillations. Explain the working of RC phase shift oscillator with neat diagram. **(8)**

    b) Explain the construction and working of sweep frequency generators. **(8)**

OR

    a) Differentiate the active and passive circuits used for production pulse and square wave shapes. Explain a passive pulse shaping circuit. **(8)**

b) Explain the working principle of sine wave generators with complete block diagram. (8)

Unit - V

5. a) Define the following with reference to transducers:-

i) Dynamic error

ii) Non- Conformity error (8)

b) What do you mean by 'Seeback effect'. Explain the working, advantages, disadvantages, and characteristics of k-type thermocouples. (8)

OR

a) Differentiate between the following citing suitable examples:-

i) Primary and secondary transducers.

ii) Active and passive transducers. (8)

b) Derive the expression of gauge factor of Resistance wire strain gauges. Explain the protective coatings and adhesives of strain gauges. (8)