



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 1002

Roll No.

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B. Tech.

(SEM. III) EXAMINATION, 2007-08 FOUNDATION OF INFORMATION TECHNOLOGY

Time : 2 Hours]

[Total Marks : 50

Note : Attempt all the four questions.

1 Answer any **four** of the following : $3\frac{1}{2} \times 4 = 14$

- Define Information. Explain to the entropy model to measure Information.
- Discuss the need and quality of information. Mention clearly some of the salient features of a good quality of information.
- Describe following : coding methods for data representation: Excess 3 code, Hexadecimal and octal for the $(341)_{10}$ why radix conversion is required ?
- Describe the Hoffman coding method.
- Explain the terms Jpcg, Mpeg and Mpeg
- Discuss the information representation mechanism in Digital media.

2 Answer any **four** of the following : $3 \times 4 = 12$

- Describe the functions of different hardware components of a computer.

- (b) Explain the terms RAM, ROM, PROM, EPROM and EEPROM. Describe with diagram the organization of memory hierarchy.
- (c) Describe the different models for the development software. Mention the features of an efficient software.
- (d) Describe the salient features, merits and demerits of different generation of computers.
- (e) Describe the characteristics and functions of the following I/O devices.
Keyboard CRT and Printer.
- (f) What is e-commerce? Describe use of IT in Industrial Automation and Business Organization.

3 Answer any **two** of the following : **6×2=12**

- (a) (i) Using NAND gates how can you realise OR, AND and NOT functions.
(ii) What are DeMorgan's theorems? Draw a digital multiplexer circuit.
- (b) (i) Make a comparative view of LAN and WAN.
(ii) Show the connection diagram of the following topologies.
Star, Bus, Token-bus, ring and Token ring.
- (c) (i) Explain the terms circuit switched, packet switched and CSMA/CD.
(ii) What is ATM? Describe the different layers in ATM. What is cell?

4 Answer any **two** of the following :

6×2=12

- (a) (i) Distinguish between WML and HTML.
- (ii) Half duplex and full duplex mode.
Illustrate the above pair of terms with diagram and salient features.
- (b) (i) What is Search Engine? What are different search engines used in Internet. Discuss the steps in performing E-mail.
- (ii) Discuss the security methods for Internet in brief.
- (c) (i) Explain the terms : Inheritance, polymorphism and dynamic binding in object oriented programming.
- (ii) Explain the terms : WAP, XML and JSP.
- (iii) What is CORBA? Mention its features.
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