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Printed Pages—4

TIT—101

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

PAPER ID : 1305

Roll No.

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B.Tech.

FIRST SEMESTER EXAMINATION, 2005-2006

INFORMATION TECHNOLOGY

Time : 3 Hours

Total Marks : 100

- Note :** (i) Attempt **ALL** questions.
(ii) All questions carry equal marks.
(iii) Be precise in your answer.

1. Attempt *any four* parts of the following : (4x5=20)
- (a) What do you understand by Information Technology ? What are its applications ? Explain in brief.
- (b) What is the drawback of using LZ78 algorithm ? Encode the message "MAHAN*MAHABHARATH" using this algorithm. Show all the steps.
- (c) What do you understand by 'Self Information' ? For a given message "DADBADCADBAADAC" calculate the following :
- (i) Self information associated with characters A and B in the message
- (ii) Average self information of message
- (iii) Entropy of message

- (d) Differentiate between the following :
- (i) Static coding and dynamic coding
 - (ii) Digital computer and hybrid computer
 - (iii) JPEG and GIF
 - (iv) Data and information
- (e) What is computer animation ? Explain its basic concepts.
- (f) (i) What is difference between compression and encryption ?
- (ii) What do you understand by Internet ?

2. Attempt *any four* parts of the following : (4x5=20)

- (a) Compare the features of various generations of computer.
- (b) Explain the hierarchy of memories used in computer system. Compare the characteristics of all the memories shown in the hierarchy.
- (c) Differentiate between a program and an algorithm. Draw a flowchart to show whether a given number is positive or negative.
- (d) What is a digitizer ? Is it an input device or an output device ? Justify your answer.
- (e) Answer the following questions :
 - (i) What do you understand by software development life cycle ?
 - (ii) List various stages of waterfall model.
 - (iii) What are the main objectives of feasibility study phase in software development ?
 - (iv) What is SRS ?
 - (v) Differentiate between debugging and testing.
- (f) What do you mean by quality assurance ? Write a short note on ISO 9000.

3. Attempt *any four* parts of the following : (4x5=20)

- (a) Convert (011010111101001100)₂ in decimal, octal and hexadecimal number system.
- (b) Draw a full adder using two half adders. Also give the truth table for full adder.
- (c) What do you mean by modulation ? Differentiate between Amplitude modulation and Frequency Modulation.
- (d) Draw and explain the following network topologies :
 - (i) Star topology
 - (ii) Bus topology
 - (iii) Ring topology
- (e) Differentiate between various types of transmission mode ?
- (f) What do you mean by client server architecture ? Discuss the pros and cons of it ?

4. Attempt *any four* parts of the following : (4x5=20)

- (a) What is e-commerce ? Justify that Electronic Data Interchange (EDI) is a part of e-commerce.
- (b) What are fire walls ? Differentiate between the static and dynamic firewalls.
- (c) What is a credit card ? Discuss the problems faced with credit cards.
- (d) Explain the purpose of the following HTML tags:
 - (i) BODY
 - (ii) LIST
 - (iii) HEADINGS
 - (iv) HREF
 - (v) IMG

