

2 Attempt any **four** parts of the following : **5×4=20**

- (a) Describe the software development methodology.
- (b) (i) Differentiate between sequential access and random access devices.
(ii) Explain different types of ROM devices.
- (c) Explain the role of hard disk in a computer system. Draw the internal design of a hard disk.
- (d) What is cache memory? Compare various parameters of cache memory, main memory, auxiliary storage devices.
- (e) (i) Describe the major developments in different generation of computer evolution.
(ii) How do fourth generation languages differ from third generation languages?
- (f) Explain CMM standards for IT industry.

3 Attempt any **four** parts of the following : **5×4=20**

- (a) Differentiate between frequency-division multiplexing and time-division multiplexing.
- (b) Explain the phase modulation concept. Compare it with Amplitude modulation and frequency modulation.
- (c) Convert the following:
 - (i) FFFF hexadecimal to Decimal format.
 - (ii) Decimal 31.54 to Binary format.
 - (iii) Binary 11.0001 to Decimal format
 - (iv) Decimal 15 to Gray code format
 - (v) Hexadecimal 7F2 to Octal format.

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- (d) Define BCD code. What is the disadvantage of using BCD code? How do we remove this problem? Is BCD code weighted code? If yes, show else explain.
- (e) Explain the role of various network elements in a mobile communication network. Which cell shape is used in it and why?
- (f)
 - (i) Explain the concepts of CSMA/CD.
 - (ii) What is client-Server architecture.
 - (iii) Draw star, BUS, Ring network topologies.

4 Attempt any **four** parts of the following : **5×4=20**

- (a) What do you understand by mark up language? How they differ from conventional programming language? Discuss clearly.
- (b) What is cryptography ? Why do we use it in Internet ? Differentiate between public key and private key cryptography techniques.
- (c) What is a domain name? How does computer resolves IP address corresponding to a domain name?
- (d) What is the role of firewalls in the Internet ? Explain various types of firewalls.
- (e) Explain the various requirements of E-commerce system. What is the role of security in E-commerce? How do we implement security in E-commerce?
- (f) Discuss Gopher, FTP, Telnet, HTTP, Email.

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5 Attempt any **four** parts of the following : **5×4=20**

- (a) What is an operating system? Write its major functions. List the name of some popular operating systems.
 - (b) What is word processing? Name some features of word processors. What are advantages of word processing package MS-word ?
 - (c) Define SQL. What are advantages of using it? Give the classification of SQL statements.
 - (d) Explain the concept of e-governance? What are its advantages and disadvantages ? Briefly explain the possible threats to such system.
 - (e) What is database management system. Write the advantages and disadvantages of DBMS. Explain different components of DBMS.
 - (f) Explain the role of I.T. in weather forecasting. What is the impact of I.T. use in this on common people in India?
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