

Exam. Code : 105705

कन्या महा विद्यालय पुस्तकालय

Subject Code : 1586

जालन्धर शहर

B.Sc. IT 5th Semester

COMPUTER NETWORKS

Paper—I

Time Allowed—3 Hours]

[Maximum Marks—100

Note :— Attempt any **five** questions. All questions carry equal marks.

1. Compare OSI reference model with TCP/IP reference model. 20
2. What is network topology ? Discuss the commonly used network topologies by giving their respective advantages and limitations. 20
3. (a) Define : Routers, Bridges, Repeaters and Gateways.
(b) Define Switching. Discuss briefly various types of Switching. 8,12
4. (a) Write briefly on the following : Modem, Multiplexing and Codec.
(b) What is the difference between the following :
 - (i) Analog and digital transmission
 - (ii) Baseband and broadband transmission ?

15,5

5. Discuss the following media : Twisted pair, Co-axial cable, Fiber Optical cable and Wireless Transmission. 20
6. (a) What are various error detection and error correction codes ? Discuss each one briefly.
(b) Write briefly on sliding window protocol. 12,8
7. What is Routing ? What are the desirable characteristics of a routing algorithm ? Explain the shortest path routing algorithm with suitable illustration. 20
8. (a) What is Internetworking ? How network layer support internetworking ?
(b) Discuss the main security threats to a network. Why network security is considered important ? 10,10

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OPERATING SYSTEM

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Paper-II

Time Allowed—3 Hours]

[Maximum Marks—100

Note :- Attempt **five** questions in all. All questions carry equal marks.

1. Define operating system. Explain the various services provided by an operating system.
2. Explain the various pre-emptive process scheduling algorithms with the help of suitable examples.
3. Briefly discuss the various contiguous and non-contiguous memory management techniques.
4. Explain the various page replacement algorithms with the help of suitable examples.
5. Discuss the various disk scheduling algorithms.
6. Define the concepts of file. What are the attributes of a file ? What operations are performed on files ? Explain various file allocation methods with the help of examples.
7. Define deadlock. What do you mean by deadlock avoidance ? Discuss the Banker's algorithm in detail.
8. Write short notes on the following :
 - (a) Process Control Block
 - (b) Virtual memory
 - (c) Critical sections
 - (d) MFT versus MVT.

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E-BUSINESS

Paper-III

Time Allowed—3 Hours]

[Maximum Marks—100

Note :- Attempt any **five** questions. All questions carry equal marks.

1. What do you mean by E-Commerce ? What are its types ? What is its importance for the consumer and the organization ?
2. What are various steps to open an online business ? Specify both hardware/software as well technical issues.
3. Compare the EDI with traditional systems. Discuss the implementation issues of EDI.
4. Explain in detail, the laws of e-commerce in India.
5. Discuss the advantages and strategic plan to introduce e-commerce in retailing and online business.
6. What are the security issues in online transactions ? What are steps/precautions for secure online transactions ?
7. What are NII and GII ? What are technical issues, standards, and services of NII ?
8. Write short notes on the following :
 - (a) Various components of EDI system
 - (b) Digital Signatures
 - (c) Electronic Cash
 - (d) EDI service providers.