

Bachelor of Engineering
Fifth Semester Main Examination, December-2021
Computer Networks [IT-503]
Branch: IT

Time: 3:00 Hrs

Max Marks 70

- Note:** 1. Attempt any five questions.
2. All question carry equal marks.

- Q.1 (a) Explain LAN and WAN in brief with suitable example and diagram.
(b) Draw the OSI network architecture and explain the functions of each layer in details.
- Q.2 (a) Explain the working of ARP and RARP.
(b) Explain data link layer address with examples.
- Q.3 (a) What do you mean by CSMA method of MAC? Define persistent and non-persistent CSMA.
(b) Explain ALOMA and slogged ALOMA protocol with suitable example.
- Q.4 (a) Differentiate between bridges, routers and getaways.
(b) Differentiate between IPv4 and IPv6 protocols.
- Q.5 (a) Discuss in detail about open source shortest path routing with neat diagram.
(b) What is UDP? Write about the operation of UDP.
- Q.6 (a) Define ICMP header. Write down its message types.
(b) What is BooTP? Discuss its operation.
- Q.7 (a) Draw and explain TCP packet header.
(b) Explain Bellman food rooting algorithm with example.
- Q.8 Write short note on any two
(i) FOOI (ii) Point to point protocol (iii) DNS (iv) DHCP

Bachelor of Engineering
Fifth Semester Main Examination, December-2021
System Programming and Operating System [IT-504]
Branch: IT

Time: 3:00 Hrs**Max Marks 70**

Note : 1. Attempt any five questions out of eight.
 2. All question carry equal marks.

- Q.1 (a) Differentiate between translation and interpretation.
 (b) Explain application s/w and system s/w with example.
- Q.2 (a) What are the threads? Write the advantages of threads over a process.
 (b) Explain critical section problem and its solution.
- Q.3 Explain the following terms :
 i) Compiler ii) macros
 iii) Linkers iv) Assemblers
- Q.4 (a) What are the various services that an operating system provides to the user?
 Discuss the basic design issues for an operating system .
 (b) Explain the difference among short term medium term and long term scheduling with the help of process state transition diagram .
- Q.5 For the following example calculate average turnaround time and average waiting time for the following algorithm (i) FCFS (ii) preemptive SJF

Process	Arrival time	Burst time
P ₁	0	8
P ₂	1	4
P ₃	2	9
P ₄	3	5

- Q.6 (a) Explain Banker's algorithm for deadlock avoidance with example.
 (b) Explain Best fit, first fit and worst fit allocation with example.
- Q.7 (a) Explain file concept. List the objectives of file management system.
 (b) Explain the cache memory and virtual memory.
- Q.8 Write short note on (Any three)
 i) Distributed system ii) Demand paging
 iii) Segmentation iv) Software tools
 (v) Thrashing

Bachelor of Engineering
Fifth Semester Main Examination, December 2021
Java Programming [IT-505]
Branch: IT

Time: 3:00 Hrs

Max Marks 70

Note : 1. Attempt any five questions out of eight.

2. All question carry equal marks.

- Q.1 (a) "Java is object oriented language". Give reasons to supporting the given argument.
(b) What is the difference between overloading and overriding? Explain with example.
- Q.2 (a) Explain the life cycle of apple.
(b) What is an abstract class in java and how it is different from interface?
- Q.3 (a) Explain the concept of multithreading.
(b) Explain Exception handling in Java with the suitable example.
- Q.4 (a) Explain the term "try", "catch", "throw" and "assertions" with examples.
(b) What are the basic steps for using JDBC to access data base? Explain briefly with syntax.
- Q.5 (a) What do you mean by constructor ? Explain with suitable example.
(b) Write advantages and limitation of applets in java.
- Q.6 (a) Discuss the concept of final, finally and finalize keyword in java.
(b) Java string in immutable. Explain with the help of program.
- Q.7 (a) Write about text input / output and binary input / output.
(b) How to handle multiple catch blocks for a nested try blocks? Explain with an example.
- Q.8 Explain the following : - (Any three)
- i) Copy constructor.
 - ii) Thread scheduling
 - iii) JDBC – ODBC bridge
 - iv) RMI registry services

Bachelor of Engineering
Fifth Semester Main Examination, December 2021
Data Communication [IT-501]
Branch - IT

Time: 3:00 Hrs**Max Marks 70**

Note : 1. Attempt any five questions out of eight.
2. Each question carries equal marks.

- Q.1 (a) Explain the OSI reference model in details ?
(b) Write notes on LAN,MAN and WAN ?
- Q.2 (a) Explain in details about topologies with neat diagram and examples. .
(b) Explain any two IEEE standards in details.
- Q.3 (a) What is classful addressing ? discuss class A class B, C ,D and E addresses with. its ranges in decimal dotted notation and examples.
(b) What is sliding window? Explain Go-back-N protocol in details.
- Q.4 (a) What is multiplexing ? Explain EDM and TDM ?
(b) Differentiate IPV4 and IPV6 ?
- Q.5 (a) What is congestion in the N/W ?
(b) describe different types of transmission channels with examples ?
- Q.6 (a) Explain CRC and checksum with example ?
(b) Write short note on SMTP.
- Q.7 (a) calculate the CRC for 100101000111 using the divisor 110011 .
(b) Explain any two guided media and what is routing ?
- Q.8 Write short notes on following:(any four)
i) ARP
ii) DHCP
iii) FTP
iv) ALOHA
v) Mode of communication.

Bachelor of Engineering
Fifth Semester Main Examination, December-2021
Information Storage & Management [IT-502]
Branch- IT

Time: 3:00 Hrs

Max Marks 70

Note : 1. Attempt any five questions out of eight.
2. Each question carries equal marks.

- Q.1 (a) What do you understand by the information life cycle management what is the significance of the same in information management.
- Q.2 (a) Explain storage virtualization with the help of a diagram.
(b) Write features of memory virtualization.
- Q.3 What is JBOD? Describe its architecture, features and disadvantages.
- Q.4 Explain the following technologies in details.
(a) CAS (b) DAS (c) NAS
- Q.5 Compare the RAID level (0,1,2,3,4,5) in terms of storage efficiency, cost, read and write performance.
- Q.6 (a) What is data categorization? Why data categorization is required.
(b) Explain the components of an intelligent storage system.
- Q.7 Describe the following industries and their management standards:
(i) SNMP (ii) SMI-S
(b) Explain storage security framework.
- Q.8 Write short notes on (Any two)
(i) FC part (ii) Cache coherency mechanism
(iii) MAS (iv) Backup and disaster recovery