CO11309

GOVERNMENT POLYTECHNIC MUMBAI

TERM END EXAMINATION

CVEM 2014-15

Programme : **Computer Engineering**
Course Title : **Computer Networks**

03Hours / 80 marks Enrolment No. | | | | | | | | | | |

Instructions:
1. Use separate answer book for section I and section II.
2. Attempt all the questions from each section.
3. Illustrate your answers with neat sketches wherever necessary.
4. Use of Mathematical Tables, Steam Table and Pocket Calculator (non-programmable) is permissible.
5. Marks on Right Hand Side indicate full marks for the question.
6. Assume suitable additional data, if necessary

SECTION – I

Q.1 Attempt any SIX **12 Marks**

a. What is signal? Enlist types of signals.
b. Define computer network with neat labelled diagram.
c. Define topology. Enlist types of topologies.
d. What is the need of transmission media? Enlist two types of transmission media.
e. List any four components of computer network.
f. List different types of network connectors.
g. List any four functions of network control devices in a network.
h. Define Wi-Fi.

Q.2 Attempt any FOUR **16 Marks**

a. Explain synchronous and asynchronous transmission.
b. Give difference between LAN and MAN.
c. Explain hybrid topology in detail.
d. Give difference between HUB and Switch.
e. Explain unguided transmission media.
f. Explain satellite communication.

Q. 3 Attempt any TWO **12 Marks**

a. Explain communication modes.
b. Explain peer-to-peer and client-server network.
c. Write short note on : (i) Twisted pair cable (ii) Fibre optic cable.

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SECTION- II

Q.4 Attempt any SIX (6 x 2 Marks) **12 Marks**

a. List difference IP address classes
b. Differentiate between IPV4 & IPV6 protocols.(Two Points)
c. Define sub netting.
d. What is MAC address of any device?
e. Differentiate between Token Ring and Token Bus.(any two points)
f. What is WAN (wide Area Network)
g. Define routing
h. Define DNS & Give two applications of it.

Q.5.Attempt any FOUR (4 x 4 Marks) **16 Marks**

a. Differentiate between OSI & TCP/IP Network model.
b. Explain super netting & masking of IP Address in brief.
c. Explain CSMA/ CD protocol in detail.
d. Explain i) Slotted Ring ii) Cambridge Ring
e. Differentiate between Circuit switching and packet switching.
f. Explain TELNET & FTP protocols in brief.

Q. 6. Attempt any TWO (2 x 6 Marks) **12 Marks**

a. Describe OSI reference model with diagram.
b. Explain fixed, floating and adaptive routing technique in packet switching network.
c. Write short not on i) SMTP ii) DHCP iii) SNMP

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Enrollment No_____ **CO11311**

GOVERNMENT POLYTECHNIC MUMBAI
TERM END EXAMINATION

Programme: Computer Engineering/Information Technology
Course Code: CO11311 EVEN-2014-15
Course Title: Operating System
Time Allotted: 03 Hrs. **Max.Marks:** 80

Instructions:

- Use **separate** answer book for section I and section II.
- Attempt **all the questions** from each section.
- Illustrate your answers with **neat sketches** wherever necessary.
- **Use** of Mathematical Tables, Steam Table and Pocket Calculator (non-programmable) is permissible.
- Marks on **Right Hand Side** indicate **full marks** for the question.
- Assume **suitable additional** data, if necessary

SECTION – I

Q.1 Attempt any SIX (6 x 2 Marks) **12 Marks**

a. Define operating system. List any four operating systems.
b. What is batch operating system?
c. Define i) system call ii) kernel of operating system
d. Enlist four functions of an operating system.
e. Define : context switch
f. What is interprocess communication?
g. Define I/O burst and CPU burst.
h. What is scheduling ? Enlist the types of scheduling algorithms.

Q.2. Attempt any FOUR (4 x 4marks) **16Marks**

a. Explain multi programmed and multi tasking operating system.
b. Write short note on i) distributed operating system
ii) real time operating system.
c. What are the different services of an operating system. Explain any four.
d. What is process? Explain process control block (PCB) with neat diagram.
e. What is critical section problem in inter process communication, discuss shortly.
f. What are the different scheduling criteria explain shortly.

Q. 3. Attempt any TWO (2 x 6 Marks) **12 Marks**

a. Explain layered structure of an operating system with suitable diagram.
b. What is thread? Explain the multi threading model with suitable diagram.
c. Calculate the average waiting time and turnaround time using priority scheduling algorithm.

Process	Burst	Priority
P_1	4 ms	3
P_2	10 ms	2
P_3	5 ms	1
P_4	3 ms	4

SECTION – II

Q.4 Attempt any SIX (6 x 2 Marks) **12 Marks**

a. What is mutual exclusion?
b. Define page table and page fault.
c. What is swapping?
d. List any four features of Unix operating system.
e. What is race condition?
f. List any two functions of memory management.
g. What do you mean by two level directory structure?
h. List the function of ps and kill commands.

Q.5 Attempt any FOUR(4 x 4 Marks) **16Marks**

a. What is deadlock? State methods techniques to handle the deadlock.
b. Give comparison between paging and segmentation.
c. Explain contiguous allocation method.
d. Explain structure of UNIX operating system.
e. Explain virtual memory concept. Give advantages of it.
f. Explain any four attributes of file.

Q. 6 Attempt any TWO (2 x 6 Marks) **12 Marks**

a. Explain banker's algorithm with suitable example for deadlocks.
b. Explain FIFO page replacement algorithms for the reference string 7 0 1 2 0 3 0 4 2 3 1 0 3. List its drawback.
c. Explain different types of access methods of file.

GOVERNMENT POLYTECHNIC MUMBAI
TERM END EXAMINATION
EVEN 2014-15

Programme : **Computer Engineering**
Course Title : **Software Engineering**

03Hours / 80 marks Enrolment No. | | | | | | | | | | |

***Instructions*:**
1. Use separate answer book for section I and section II.
2. Attempt all the questions from each section.
3. Illustrate your answers with neat sketches wherever necessary.
4. Use of Mathematical Tables, Steam Table and Pocket Calculator (non-programmable) is permissible.
5. Marks on Right Hand Side indicate full marks for the question.
6. Assume suitable additional data, if necessary

SECTION – I

Q.1 Attempt any SIX **12 Marks**

a. Enlist any two software problems.
b. Enlist any two software applications.
c. Enlist software components.
d. What is Software Engineering?
e. What is a Prototype?
f. Enlist any four software cost factors.
g. Enlist any two objectives of Project Planning.
h. What is structured analysis?

Q.2 Attempt any FOUR **16 Marks**

a. Enlist software characteristics. Explain in brief.
b. Explain a generic view of software Engineering.
c. Explain object oriented modelling.
d. Enlist software requirements specifications (SRS). Explain in brief.
e. Explain software cost estimation technique.
f. What are the resources used in project planning? Explain any one.

Q. 3 Attempt any TWO **12 Marks**

a. Explain linear sequential model with neat diagram.
b. Explain COCOMA model.
c. Explain process risk, technology risk and environmental risk.

SECTION II

Q.4 Attempt any SIX **12 Marks**

a. What is functional independence?
b. Define 1) Cohesion 2) Coupling.
c. What is software design?
d. What is testing?
e. Why testing is necessary?
f. Define 1) software quality, 2) software validation.
g. What is software maintenance?
h. Enlist testing objectives.

Q.5 Attempt any FOUR **16 Marks**

a. Explain basic concepts of object oriented designing.
b. What are testing principles? Explain in short.
c. What is software reliability? Explain in terms of error and faults.
d. Explain managerial aspects of software maintenance.
e. Explain software configurations management.
f. Explain 1) Adaptive , 2) preventive software maintenance activity.

Q. 6 Attempt any TWO **12 Marks**

a. Explain software design concepts in terms of Abstractions, Refinement and Modularity.
b. Explain Black box testing.
c. Explain Software Quantity Assurance (SQA).