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FYBCA, SEM II, SPECIAL SUPPLEMENTARY EXAMINATION, MAY/JUNE 2015

OPERATING SYSTEM CONCEPTS (BCA 202)

Duration: 2 hours **Max.Marks: 50**

Instructions: 1) All questions are compulsory
2) Start each new question on a fresh page
3) Figures to the right indicate full marks

Q.1 A) Select the right choice **(5 x 1= 5)**

a) In FCFS algorithm the CPU _____
i) first executes the job that came in last in the queue
ii) first executes the job that came in first in the queue
iii) first executes the job that needs minimal processor
iv) first executes the job that has maximum processor needs

b) In _____, information is recorded magnetically on platters.
i) magnetic disks ii) electrical disks iii) assemblies iv) cylinders

c) _____ is the concept in which a process is copied into main memory from the secondary memory according to the requirement.
i) Paging ii) Demand paging iii) Segmentation iv) Swapping

d) The base register is also known as the _____
i) basic register ii) regular register iii) relocation register
iv) delocation register

e) If one site fails in distributed system _____
i) the remaining sites can continue operating ii) all the sites will stop working
iii) directly connected sites will stop working iv) none of the mentioned

Q.1 B) Define the following in 2-3 lines

a) Trojan Horse (2)
b) Rotational Latency (1)
c) CPU Scheduler (2)

Q.2) Answer the following

a) Discuss the role of the Kernel in an Operating System. (2)
b) What is Multi-processor Scheduling? Explain its types. (3)
c) Explain the various states of a process. (5)

Q.3) Answer the following

a) Define a Semaphore? List its types. (2)
b) Give explanation of "Single Buffer" I/O Buffering Technique with a diagram (3)

c) Suppose that the processes arrive in the order: (5)

Process	Arrival Time (ms)	CPU Burst Time (ms)	Priority
P1	0	10	2
P2	1	2	1
P3	2	3	4
P4	3	1	5
P5	4	5	3

Draw the Gantt chart and calculate the average waiting time for Preemptive Priority Scheduling Algorithm.

Q.4) Answer the following

a) Explain any 2 File Operations. (2)
b) What is Secret-Key Cryptography? Explain in detail. (3)
c) Differentiate between Sequential and Direct Access Methods (with diagrams). (5)

Q.5) Answer the following

a) What is Web Operating System? (2)
b) Discuss any 4 reasons for Distributed Operating System. (3)
c) Elaborate on any 5 types of threats to computer system. (5)
