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F.Y.B.C.A SEM II, Supplementary Examination, May/June 2019

OPERATING SYSTEM CONCEPTS (BCA-202)

Duration: 2 Hours

Total Marks: 50

- Instructions:** 1) All Questions are **Compulsory**.
2) Figures to the right indicate maximum marks.
3) Start each new question on a fresh page.

Q.1 Define the following:

(2 X 5 = 10) Marks

- i) Resident Monitor.
- ii) Fragmentation.
- iii) Best fit and worst fit.
- iv) File attributes(any four).
- v) Time sharing system.

Q2) Answer the following questions:

(10 Marks)

- A) Explain any two services provided by operating system. 2 Marks
- B) What are the measures taken to recover from deadlock? 3 Marks
- C) For the following set of processes, draw the Gantt chart and calculate average waiting time using FCFS and Round Robin (with quantum=4) scheduling algorithms. 5 Marks

Processes	Arrival Time	Burst Time
P1	0	24
P2	1	3
P3	2	3

Q3) Answer the following questions:

(10 Marks)

- A) What is Thrashing? 2 Marks
- B) Explain SSTF disk scheduling algorithm in brief. Also write its advantages and disadvantages. 3 Marks

- C) With a neat diagram, explain Page replacement. What are the steps in handling Page fault? 5 Marks

Q4) Answer the following questions: (10 Marks)

- 1) Explain symmetric encryption. 2 Marks
- 2) Explain any three types of Program threats in detail. 3 Marks
- 3) With neat diagram, explain Segmentation. Also explain the structure of Segment table. 5 Marks

Q5) Answer the following questions: (10 Marks)

- 1) Explain basic instruction cycle with diagram. 2 Marks
- 2) What is a Distributed operating system? Explain any two design issues of Distributed operating system. 3 Marks
- 3) Explain any two types of Web based operating system highlighting its features. Also write advantages of Web based operating system. 5 Marks