No. of Printed Pages—2

475 (OS)

[20–HBGPOW–D3S(O)21A]

BCA 3rd Semester (Old) Exam., 2020 (W)

OPERATING SYSTEM

[BCA–10]

Full Marks : 80

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. Answer the following questions : 1×8=8

(a) Define time sharing system.

(b) Define distributed operating system.

(c) What is real-time operating system?

(d) What is race condition?

(e) What is semaphore?

(f) What is scheduling?

(g) Define deadlock.

(h) What is the use of scheduling?

2. Answer the following questions : 2×8=16

(a) What is multitasking system?

(b) What is a process? How can a process be uniquely identified?

(c) Differentiate between process and thread.

(d) What is mutual exclusion?

(e) What is relocation?

(f) Define virtual memory.

(g) What is file attribute?

(h) Define device driver.

3. Answer any *five* from the following questions : 4×5=20

(a) What is multithreading? Explain with an example.

(b) What are the conditions that must be present for deadlock to occur? Explain in brief.

(c) Draw and explain the structure of a typical page table entry.

(d) What is DMA? Explain the function of a DMA.

(e) What is interrupt? What is the function of interrupt handlers?

(f) What are the security threats in operating system? Explain briefly.

4. Answer any *two* from the following questions : 8×2=16

(a) Explain the process model with a diagram.

(b) Explain the Peterson's solution to achieve mutual exclusion.

(c) Explain the Banker's algorithm for deadlock avoidance.

5. Answer any *two* from the following questions : 10×2=20

(a) Write briefly the functions of an operating system.

(b) Describe any of the scheduling algorithms.

(c) What is a distributed operating system? Discuss how it is different from network operating system.

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