Form No. Ex- 8

Particulars about the candidate and the subject are checked thoroughly and corrected where necessary.

Sl. No..... 421

CENTRE ROLL:.....

Signature of Officer-in-Charge

Invigilator

KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY

BCA 3rd Semester Examination 2014

Course : 10

(Operating System)

Enrolment Number | | | | | | | | | | | | | | **Year** | |

Medium of Answer : | |

INSTRUCTIONS TO CANDIDATES

1. This booklet contains...20..... Pages numbering..19.....
2. An Examinee is allowed to bring only Admission Card and Identity Card to the Examination Hall. Any Examinee found in possession of loose papers, books etc. is liable to be Expelled.
3. Enrolment No. and Medium of answer must be written legibly at the specified places. Examinee's name and any other identifying mark which reveals examinees identity shall not be written anywhere in the script.
4. For Making calculations, only the last page provided for rough work shall be used.
5. No pages of the script be torn out .
6. Calculators will not be allowed for making calculations in the examination hall. ***MOBILE PHONES are strictly prohibited in the examination Centre.***
7. No candidate will be allowed to leave or go out of the hall during the First hour of the Examination.
8. A candidate having completed his/her answer, the script must be handed over, to an invigilator before leaving the hall.
9. Contravention of any of the instructions mentioned above shall render a candidate liable for disciplinary action as per regulations of the University.

Question No.	Marks
Total=	

Examiner's Signature_____

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Head Examiner's Signature:_____

BCA 3rd Semester Examination 2014
Course : 10
(Operating System)

Time : 3 Hrs. Full Marks : 80

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

   (a) What type of software/program an operating system is?

   (b) Mention the different states of a process.

   (c) What is the use of the producer-consumer problem?

   (d) Which scheduling scheme is used by the windows operating system?

   (e) Give one example for each of reusable and consumable resources.

   (f) What is a device file?

   (g) Give two examples of device drivers.

   (h) Scheduling algorithm varies on different kinds of operating system. What are they?

2. Give brief answer for the following questions : 2×8 = 16

(a) What is the difference between hard real-time and soft real-time system?

(b) How does a process terminate when it is killed by an another process?

(c) What is a distributed operating system? Give one example.

(d) What is meant by deadlock?

(e) How virtual memory differs from physical memory?

(f) State the differences between the circuit switching and packet switching.

(g) List the different services provided to the programmer by the operating system.

(h) State the main rules used for naming a file.

3. Answer any five questions from the following : $4 \times 5 = 20$

(a) What is multiprogramming? How does it differ from uniprogramming?

(b) What are the conditions that must present for occurence of deadlock? Briefly explain.

(c) Explain the problems associated with equal-size fixed partitioning memory.

(d) What are the differences between random access and sequential access technique? Give examples of data structure where these accessing technique can and can't be used.

(e) Explain the main characteristics of a distributed system.

(f) Write short notes on multiprocess processor synchronization.

(g) Differentiate between sequential access file and Random access file.

4. Answer only two questions from the following : $8 \times 2 = 16$

(a) Explain the different steps involved in creating a process by the operating system.

(b) Describe the first-come first-served (FCFS) scheduling algorithm and compare it with the Round Robin Scheduling algorithm.

(c) What is meant by Access control? What are its benefits? Explain.

5. Answer only two questions from the following : $10 \times 2 = 20$

(a) What is meant by mutual exclusion? Explain the Peterson's solution to achieve mutual exclusion. 2+8=10

(b) (i) Define an interrupt. How it is handled by the system? Explain. 2+4=6

(ii) How does DMA differ from other data transfer techniques? Describe. 4

(c) (i) What is meant by deadlock recovery? 2

(ii) Draw and explain the structure of a typical page table entry. 4

(iii) Explain the concept of tree structured directory. 4