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Total No. of Questions : 11] [Total No. of Printed Pages : 8

**PK-424**

**M.Sc. II Semester Computer Science  
(Reg./ATKT) Examination June 2018**

**OPERATING SYSTEM**

**Paper - II**

*Time Allowed : Three Hours]*

*[Maximum Marks : 85*

**Note :** All questions are compulsory.

**Section - A**

**Objective Type Questions**

**Q.1. Choose the correct answers:**  $10 \times 1 = 10$

- i) A process is \_\_\_\_\_
- (a) Program in main memory
  - (b) Program in cache
  - (c) Program in secondary storage
  - (d) Program in execution

YA18-680

PK-424

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**(2)**

- ii) \_\_\_\_\_ selects a process from among the ready processes to execute on the CPU.
- (a) CPU scheduler
  - (b) Loader
  - (c) Dispatcher
  - (d) Compiler
- iii) Time taken by the dispatcher to stop one process and start another to run is known as \_\_\_\_\_
- (a) Turn around time
  - (b) Dispatch Latency
  - (c) Access Time
  - (d) Response Time
- iv) Because the I/O devices are not synchronized with the CPU, some information must be exchanged between CPU and the device to ensure that the data is received reliably. This interaction between the CPU and I/O device is called \_\_\_\_\_
- (a) Polling
  - (b) Arbitration
  - (c) Hand shaking
  - (d) Interrupting

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PK-424

**Contd...**

(3)

- v) A solution to starvation is \_\_\_\_\_
- (a) Segmentation
  - (b) Paging
  - (c) Aging
  - (d) Virtual Memory
- vi) The primary purpose of an OS is \_\_\_\_\_
- (a) to allow people to use computer
  - (b) to make the most effective use of the computer hardware
  - (c) to make computers easier to use by children
  - (d) to keep system programs
- vii) Which of the following operating system reads and reacts in actual time \_\_\_\_\_
- (a) Quick response system
  - (b) Time sharing system
  - (c) Batch processing system
  - (d) Real time system

(4)

- viii) A page fault occurs when \_\_\_\_\_
- (a) the page is not found in the memory
  - (b) the page is found in the memory
  - (c) the segmentation starts
  - (d) the deadlock happens
- ix) When a peripheral device needs immediate attention from the operating system, it generates \_\_\_\_\_ <http://www.onlinebu.com>
- (a) Page file
  - (b) Spool
  - (c) Stack
  - (d) Interrupt
- x) Which of the following is suitable after you install new devices?
- (a) Hibernate
  - (b) Restart
  - (c) Sleep
  - (d) Shut down

(5)

**Section - B**  
**Short Answer Type Questions**

5×5=25

Q.2. Explain File Manager and its functions.

OR

Explain memory manager and its functions.

Q.3. Explain the following:

- a) File attributes
- b) File operations

OR

Explain linked and indexed file allocation methods.

Q.4. Give the process life cycle block diagram and explain.

OR

Write a note on future trends in processor management.

Q.5. How is a page fault serviced?

OR

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PK-424

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(6)

Explain the following:

- a) Memory hierarchy
- b) Dirty Bit

Q.6. Explain the following:

- a) Virtual device
- b) Dedicated device

OR

How does the I/O traffic controller work?

**Section - C**

**Long Answer Type Questions**

5×10=50

Q.7. Explain the following (any two):

- a) Real time operating system
- b) Distributed operating system
- c) Time sharing operating system

Q.8. Explain contiguous file allocation method in detail mentioning its advantages and disadvantages.

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PK-424

*Contd...*

(7)

OR

- a) Name and define the most common file attributes that define files in a system.
- b) Name some common file types, their extensions and their function.

- Q.9. a) Describe the process control block, its role in multiprogramming where is it located.
- b) Explain context switch.

OR

Explain process synchronization and the mechanisms followed to achieve it.

- Q.10. Describe the virtual memory concept in detail and its implementation.

OR

Explain the following with reference to memory management:

- a) Compaction
- b) PMT
- c) Fragmentation
- d) Thrashing

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PK-424

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(8)

- Q.11. Elaborate on the purpose and function of the following:

- a) Device Controller
- b) Device Driver

OR

Explain the following:

- a) I/O Scheduling
- b) Buffering and Caching



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