

Question Bank
B.Sc. II Computer Science (Semester IV)
Paper VII : BCST402: Operating System

2 Marks

1. What is an Operating System and what are the goals and functions of an Operating System?
2. What are the types of an Operating System?
3. Multiprogramming vs Multiprocessing vs Multitasking.
4. What is the difference between a multi-core system and multiprocessor system?
5. What is Kernel in Operating System and what are the various types of Kernel?
6. What is Spooling in Operating System?
7. What is a process and what are the different states of a process?
8. Process Control Block in Operating System.
9. What is context switching? What are its advantages and disadvantages?
10. What is Long-Term, Short-Term, and Medium-Term schedulers?
11. Difference between a dispatcher and a scheduler.
12. Process scheduling algorithms in the Operating System.
13. What is the difference between Preemptive and Non Preemptive scheduling?
14. What is Burst time, Arrival time, Exit time, Response time, Waiting time, Turnaround time, and Throughput?
15. What are starvation and aging?

16. What is a Thread in OS and what are the differences between a Process and a Thread?
17. What is the concept of Multithreading in OS and what are its benefits?
18. What is Process Synchronization in Operating System?
19. What is semaphore and what are its types?
20. The Producer-Consumer problem
21. The Reader-Writer problem
22. Difference between Mutex and Semaphore in the Operating System.
23. What is Deadlock and what are its four necessary conditions?
24. What are deadlock handling techniques in the Operating System?
25. What is Banker's algorithm?
26. Is separate compiler required for executing a shell program?
27. How many shell scripts come with UNIX operating system?
28. When should shell programming/scripting not be used?
29. Basis of shell program relies on what fact?
30. What are the default permissions of a file when it is created?
31. What can be used to modify file permissions?
32. How to accomplish any task via shell script?
33. What are Shell Variables?
34. What are the two types of Shell Variables? Explain in brief.

10 Marks

1. What is Thrashing and when does it occur?
2. How Memory Management is done in Operating System and what are the different memory partitioning techniques?
3. What is the difference between logical and physical address wrt Operating System?

4. What is Fragmentation and what are its types?
5. What are Paging and Segmentation?
6. What are demand-paging and pre-paging?
7. What are the page replacement algorithms?
8. What is Belady's Anomaly?
9. How does dynamic loading aid in better memory space utilization?
10. What is Virtual Memory? How is it implemented?
11. What are the various Disk Scheduling Algorithms in Operating System?
12. What are the four necessary and sufficient conditions behind the deadlock?
13. Why is the operating system important? ...
14. What's the main purpose of an OS?
15. What are the benefits of a multiprocessor system?

4 Marks

1. What are the different operating systems? ...
2. What is a socket? ...
3. What is a real-time system? ...
4. What is kernel? ...
5. What is monolithic kernel? ...
6. What do you mean by a process?
7. What is the difference between process and program?
8. What is the use of paging in operating system?
9. What is the concept of demand paging?
- 10.
11. What is the advantage of a multiprocessor system?
12. What is virtual memory?
13. What is thrashing?
14. What are the four necessary and sufficient conditions behind the deadlock?
15. What is a thread?
16. Explain about file permissions.
17. What is a file system?
18. What are the different blocks of a file system? Explain in brief..

19. What are the three different security provisions provided by UNIX for a file or data?
20. What are the three editors available in almost all the versions of UNIX?
21. What are the three modes of operation of vi editor? Explain in brief.
22. What is the alternative command available to echo and what does it do?
23. How to find out the number of arguments passed to the script?
24. What are control instructions and how many types of control instructions are available in a shell? Explain in brief.
25. What are Loops and explain three different methods of loops in brief?

B.Sc. II Computer Science (Semester IV)
Paper VIII : BCST402: Object Oriented Concepts using JAVA

Long Questions:-

1. Describe Class, Object and Method with syntax.
2. Define Java Environment.
3. Explain Conditional Statements with syntax.
4. Explain various looping in java with syntax.
5. What is Java Tokens? Explain its types.
6. How to implement java program? Explain with suitable example.
7. Explain java constants with its types.
8. How to implement interface? Explain with suitable example.
9. How to create and access package?
10. Explain Java API package and System package.
11. How to define interface? Explain with suitable example.
12. What is subclass constructor? Explain with suitable example.
13. Explain function overloading and overriding with suitable example.
14. How to extend thread using Thread class?
15. What is Multithreading? Explain ways to create thread in java.
16. Explain Life Cycle of Thread?
17. What is Exception? Explain its syntax with suitable example.
18. How to throw exception in java? Explain with suitable example.
19. Explain finally statement with syntax and suitable example.
20. Explain Applet Life Cycle.

21. What is AWT? Explain its hierarchy with suitable example.
22. Explain Layout Manager with its types.
23. What is Event Handling? Explain its different steps.
24. What is Applet in java? Explain to add applet code to html file.
25. Explain BorderLayout and GridLayout with its constructor.

Short Questions:-

1. Difference between Java and C++
2. Define Constructor.
3. Define Java Virtual Machine
4. Explain variables in java.
5. Explain Java Development Kit?
6. How to implement java program?
7. Write a short note on type casting.
8. Explain the history of Java.
9. Difference between Function Overloading and Function Overriding
10. Explain System Package?
11. Define interface in java.
12. Explain Inheritance with its types.
13. Explain Java API Package.
14. How to add class to package?
15. Which benefits provide package in java?
16. Describe Thread Priority.
17. Write a short note on Stopping and Blocking a thread.
18. Write a short note on Compile Time Error.
19. How to extend Thread class?
20. Explain Thread Exception.
21. Explain types of error in java.
22. Explain multiple catch block with suitable example.
23. What are the different runtime errors in java?

- 24.Explain Applet in Java with its types.
- 25.What is Event? Explain its different types.
- 26.Define Java FlowLayout with suitable diagram.
- 27.Explain AWT with hierarchy.
- 28.Define Java GridLayout with suitable diagram.
- 29.Which are the different classes and interfaces in event handling?
- 30.Explain constructor of FlowLayout with suitable diagram.

Define the Term:-

1. What are the different features in java?
2. Define Java Tokens.
3. How to create object in java?
4. Describe Uses of Java.
5. Which type of applications developed using java?
6. Write syntax of method in java?
7. What are constants used in java?
8. Define the term: Class.
9. What are the different versions in java.
10. Define the term: object.
11. Describe type of inheritance.
12. What is mean by Package?
13. Define the term: Polymorphism.
14. Write syntax to implement interface?
15. What are the different java API packages?
16. Describe steps to create package.
17. Define the term: Function Overloading.
18. What is mean by interface?
19. Write a syntax to create package?
20. Define the term: Function Overriding.
21. Define the Term:Multithreading.

22. Give the syntax of Throwing exception.
23. Write syntax of finally statements.
24. Describe ways to create thread.
25. What is mean by Exception Handling?
26. Write syntax of multiple catch statements.
27. Give the syntax of run() method .
28. Which methods used to block a thread?
29. How to stop thread in java?
30. Which are the different states in thread life cycle?
31. Define the Term:Applet.
32. What is mean by AWT.
33. Describe types of events.
34. Define the term: Source and Listener.
35. Write the steps to involved in event handling.
36. What is Java LayoutManager?
37. Give different constructors used in BorderLayout.
38. Define the term: Container.
39. Which methods used in component class?
40. Define the term: Event Handling.