

- (b) (i) Define array. What is array sorting and explain with an example.
 - (ii) State and explain documentation comments in Java. (8)
12. (a) (i) What is class hierarchy? Explain its types with suitable example. (8)
- (ii) Explain in detail about the term reflection. (8)

Or

- (b) (i) Explain in detail about the term interface and list out its properties. (8)
 - (ii) What is final keyword? Explain with an example. (8)
13. (a) (i) Explain about the concepts of creating and positioning of frame. (8)
- (ii) Define Event handling. Write a program to handle a button event. (8)

Or

- (b) (i) What is layout management? Write the different types of layout with suitable examples. (8)
 - (ii) What is swing component? Write a java program by using major of the swing component with output. (8)
14. (a) (i) Explain in detail about generic classes and methods. (8)
- (ii) Write about inheritance rules for generic types with example. (8)

Or

- (b) (i) Define Exception and explain its different types with example. (8)
 - (ii) Explain briefly about Assertion and Logging. (8)
15. (a) (i) What is thread? Explain the life cycle of threads. (8)
- (ii) Explain the properties of thread in detail. (8)

Or

- (b) (i) How to interrupt the thread? (4)
- (ii) Write short notes about Synchronization. (4)
- (iii) Explain about (8)
 - (1) Executors
 - (2) Thread pools
 - (3) Semaphores
 - (4) Countdown latches