

B. N. BANDODKAR COLLEGE OF SCIENCE, THANE

S. Y. B. SC. (INFORMATION TECHNOLOGY) SEMESTER – IV ADDITIONAL EXAMINATION; JUNE
2015

COURSE CODE – USIT403

Duration: 2½ Hrs

Total

Marks: 75

N.B. 1. All questions are compulsory.

- Q. 1** Answer *any two* out of following **10**
- a Describe the structure of typical java program.
 - b Explain all the operators in java.
 - c Explain method overriding with an example.
 - d Write a program to compute the sum of the digits of a given integer number.
- Q. 2** Answer *any two* out of following **10**
- a What is synchronization? When do we use it?
 - b What is Exception Handling in java? Explain with an example.
 - c Define : a) start() b) wait() c) notify() d) suspend() e) resume() f) stop()
 - d Write a note on StringBuffer Class in java?
- Q. 3** Answer *any two* out of following **10**
- a How to create a file and directory in java?
 - b Define BufferedReader and BufferedWriter class in java?
 - c Define: a) Byte stream b) Character stream
 - d Explain chararray Write class in java? Explain with an example.
- Q. 4** Answer *any two* out of following **10**
- a Write an algorithm for Binary search. Explain with an example.
 - b Write an algorithm for insertion and deletion of element from Circular Queue.
 - c Consider the following Stack of city a city name:
STACK: London, Berlin, Rome, Paris, _____, _____
a) Describe the Stack as the following operation take place.
 - i. PUSH(STACK,Athens)
 - ii. POP(STACK ,ITEM)
 - iii. POP(STACK ,ITEM)
 - iv. PUCH(STACK,Madrid)
 - v. PUSH(STACK ,Moscow)
 - vi. POP(STACK,ITEM)
 - b) Describe the stack if the operation POP (STACK,ITEM) deletes London.
 - d What is an Array? How to declare an Array? Explain properties of an array.
- Q. 5** Answer *any two* out of following **10**
- a What is link list? Explain representation of link list in memory.
 - b Write a note on traversing a link list.
 - c Explain various ways of deletion into linked list? Explain with an example.
 - d Write a note on traversing Binary tree.
- Q. 6** Answer *any two* out of following **10**
- a Explain Warshall Algorithm with an example.
 - b Explain Breadth-First Search algorithm with an example.
 - c Write an algorithm for selection sort and bubble sort with an example.

- Q. 7**
- d** Explain in brief Linked Representation of Graph.
- Answer any three out of following**
- a** List any five major differences between C++ and java.
- b** Write a note on Thread priority.
- c** What is finally block? When and how is it used? Give a suitable example.
- d** Write an algorithm for PUSH and POP operation.
- e** Design a circular queue and perform following operation below and obtain the FRONT and REAR position:
- i) Initially empty ii) A, B and C inserted iii) A deleted iv) D and then E inserted
v) B and C deleted vi) F inserted vii) D deleted viii) G and then H inserted
xi) E deleted x) F deleted xi) K inserted xii) G and H deleted xiii) K deleted
- f** Explain use of super keyword in java with an example.

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