

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BE
BRANCH: IT**

**SEMESTER : III
SESSION : MO/18**

SUBJECT: IT3023-JAVA PROGRAMMING

TIME: 03:00

FULL MARKS: 60

INSTRUCTIONS:

1. The question paper contains 7 questions each of 12 marks and total 84 marks.
 2. Candidates may attempt any 5 questions maximum of 60 marks.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) What are compound assignment operators? What are the different types of java comments? [2]
(b) What is short circuit evaluation? Explain with example. List all the data types of java with size in bytes. [4]
(c) Write a java program to multiply two matrices. [6]
- Q.2(a) What is data abstraction? [2]
(b) Can clients manipulate a queue data structure directly? Explain. [4]
(c) Why are fully qualified names of classes needed? Explain. [6]
- Q.3(a) Are constructors inherited? Can an abstract constructor be implemented? [2]
(b) What are the different types of nested classes? Write a java program to show how to access private members of a class using inner class [4]
(c) What is the difference between inheritance and encapsulation? What is the difference between private, public and protected? [6]
- Q.4(a) What is stack unwinding? Explain. [2]
(b) Tell the correct answer of the following and explain why: [4]
public static void main(String args[])
{
int x=0;
int y=10;
int z=y/x;
}
i>Compiler error
ii>Compiles and runs fine
iii>compiles fine but throws Arithmetic Exception exception.
(c) Draw the java Exception hierarchy. How do you declare new exception types? Explain with example. [6]
- Q.5(a) If you are not extending the thread class, will your class be treated as thread object? What do you have to do to create a thread object then? [2]
(b) Who calls run() method when we write object. start()? Write an example program to illustrate creating and executing threads. [4]
(c) Can you start a thread twice? Which error does it give? What is preemptive scheduling? [6]
- Q.6(a) What is record-key? [2]
(b) What are byte based streams and character based streams? Write a java program to copy contents of one file into another. [4]
(c) What are the stream classes used for byte based stream input/output and character based input/output? Explain sequential access files using example program. [6]
- Q.7(a) What are applets? [2]
(b) What are restrictions on applets? [4]
(c) Write an applet that creates a blue colored "Have a nice day" with font size 16, courier and bold. [6]

*****28.11.18*****E