Roll No. .....

97692

BCA 6th Semester (Re-Appear) Examination – December, 2022

OBJECT TECHNOLOGIES AND PROGRAMMING USING JAVA

Paper : BCA-307

Time : Three Hours] *[Maximum Marks : 80*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting ***one*** question from each Unit. Question No. 1 is ***compulsory***. All questions carry equal marks.

1. (a) What is Encapsulation ?

(b) What is Inheritance ?

(c) What is JVM ?

(d) What is Final Keyword ?

(e) What is Abstract Class ?

(f) What is CLASSPATH ?

(g) What is stream class ?

(h) What is modifiers ?

UNIT – I

2. What is object oriented programming ? How is it differ from the procedure oriented programming ? Also discuss various applications of OOPs.

3. (a) Describe Class, Object and Abstraction as applied in OOP with example.

(b) Discuss Evolution of OO Methodology.

UNIT – II

4. (a) What are constructor ? How are these useful and used ? Explain with example.

(b) Explain :

(i) Method Overriding

(ii) Polymorphism

5. (a) Explain various operators available in Java.

(b) Explain :

(i) Garbage Collection

(ii) The Finalize Method

UNIT – III

6. What is Exception ? List some of the most common type of exception that might occur in Java. Explain how to deal with exception ?

7. (a) What do you mean by Package ? How to access the content of package ?

(b) What is Interface ? How to Implement Interface ? Explain.

UNIT – IV

8. What is multithreading ? Explain life cycle of a thread with java code example. Also explain inter-thread communication.

9. (a) How does String class differ from the String Buffer class ? Explain with example.

(b) What is stream ? How is the concept of stream used in JAVA ?

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BCA 6th Semester (Re-Appear) Examination – December, 2022

ARTIFICIAL INTELLIGENCE

Paper : BCA-308

Time : Three hours] *[Maximum Marks : 80*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting ***one*** question from each Unit. Question No. 1 is ***compulsory***. All question carry equal marks.

1. (a) What is the difference between AI and Expert system ?

(b) What is the difference between Problem solving and Planning ?

(c) What is knowledge representation ?

(d) What is problem reduction ?

(e) What capabilities must a machine possess to be called it as intelligent ?

(f) Explain the concept of explanation based learning.

(g) Explain the concept of representing instances.

(h) Explain the importance of Artificial Intelligence.

UNIT – I

2. (a) What is Artificial Intelligence ? Explain the applications areas of Artificial Intelligence in detail.

   (b) What is Production System ? Explain its characteristics in detail.

3. Explain the following in detail :

   (a) Various A.I. techniques

   (b) Hill climbing and Best first search technique

UNIT – II

4. Explain the following in detail :

   (a) Computable function and predicate

   (b) Representing simple facts in logic

5. (a) Explain the issues in knowledge representation in detail. Also explain how can inheritable knowledge be represented ?

   (b) Explain the various approaches used in knowledge representation in detail.

UNIT – III

6. What is learning ? Explain learning from example-induction, learning by taking advice and learning in problem solving in detail.

7. What are various Processing in NLP (Natural Language Processing) ? Explain Syntactic processing, Discourse and Pragmatic processing in detail.

UNIT – IV

8. What is Expert system ? What are the different applications of expert systems ? Explain in detail.

9. What do you mean by Expert system shells ? Explain in detail. Also explain the importance of expert system shell in development of expert system.

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BCA 6th Semester (Re-Appear) Examination – December, 2022

INTRODUCTION TO .NET

Paper : BCA-309

Time : Three hours] *[Maximum Marks : 80*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question No. 1 is ***compulsory***. In addition to Question No. 1, attempt ***four*** more questions, by selecting ***one*** question from each Unit. All questions carry equal marks.

1. (i) What are the ***three*** key approaches of Microsoft .Net Software solution strategy ?

(ii) List down any ***four*** advantages of using .Net approach.

(iii) List down the step to create user defined assemblies in C# language.

(iv) Write down the default values for the following : int, char, enum and double.

(v) Mention the rules followed in Mixed Mode arithmetic used in C# language.

(vi) Why it is always recommended to use destructors for improving the efficiency of programming ?

(vii) How value parameters differ from reference parameters ?

(viii) Write a short note of exception handling performed in C# language.

UNIT – I

2. (i) How it is advantageous to work with Managed code rather than Unmanaged code ?

(ii) Elaborate the architecture of .Net framework with functions performed by its different components.

3. (i) Define Namespace. How the complete functioning in .Net environment revolves around the SYSTEM namespace ?

(ii) Differentiate between Windows, Web and Console applications with appropriate examples.

UNIT – II

4. How value type variables works differently than reference type variables ? Also explain the concepts of Boxing and Unboxing with relevant examples. Also mention the advantages of using it for programmers.

5. (i) Define the Term Statement. Also define any *five* types of statements available in C# language.

(ii) Briefly discuss the following :

Object reference type and Constant variables with examples.

UNIT – III

6. (i) How type casting is different from type conversion ? Explain with apt examples.

(ii) What is the sequence of execution in of Switch statement ? Also discuss the use of fall through in switch statement.

7. (i) List the rules followed in C# language for constructing and naming the Classes. Also write a short snippet in C# language to show declaration and definition of member functions.

(ii) How function overloading differs from function overriding ? Explain with relevant examples.

UNIT – IV

8. (i) What are method modifiers ? Explain any *five* such modifiers allowed in C# programming with their respective explanation.

(ii) Explain the concept of Indexers. Why they are very useful while working on larger projects ?

9. (i) Write down the characteristics of Abstract classes and Sealed classes with their usage.

(ii) Explain how methods can be hidden while working with inheritance with a small C# snippet ?
