

Roll No. ....

97693

BCA 6th Semester  
Examination – July, 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 questions carry equal marks.*

1. Answer the following questions briefly :  $2 \times 8 = 16$

- (a) What is problem reduction ?
- (b) Describe two major applications of AI.
- (c) Explain best first search with an example.
- (d) Discuss predicate logic briefly.
- (e) Describe syntactic processing briefly.

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P. T. O.

- (f) Differentiate between knowledge base and database.
- (g) Write the use and advantages of NLP.
- (h) Explain applications of learning.

#### UNIT - I

- 2. (a) Define Hill climbing. How is it useful and used ?  
Discuss with examples. 8
- (b) Discuss AI, its importance and techniques with examples. 8
- 3. Explain the following briefly with suitable examples :
  - (a) Problem characteristics 4
  - (b) Issues in design of search problem 4
  - (c) Use of AI in problem solving 4
  - (d) Constraint satisfaction 4

#### UNIT - II

- 4. (a) Define predicate logic. How is it useful and used ? Explain with an example. 8
- (b) Explain various issues in knowledge representation with examples. 8
- 5. Describe the following with examples :
  - (a) Knowledge representation schemes 8
  - (b) Representing simple facts in logic 8

#### UNIT - III

- 6. (a) Define semantic processing. How is it used and useful ? Explain with examples. 8
- (b) Explain explanation based learning with examples. 8
- 7. Explain the following with examples :
  - (a) Pragmatic processing 8
  - (b) Learning in problem solving 8

#### UNIT - IV

- 8. (a) What are expert systems ? How these are used and useful ? Discuss with examples. 8
- (b) Explain knowledge acquisition and its stages with suitable examples. 8
- 9. Explain the following with examples :
  - (a) Architecture of an expert system 8
  - (b) Expert system shells 8

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E-COMMERCE

Paper : BCA-306

*Time : Three Hours ]*

*[ Maximum Marks : 80*

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

1. Write short note on following : 4 × 4 = 16
- (i) Electronic Market
  - (ii) Value Chain
  - (iii) Smart Card
  - (iv) EDI Security

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**UNIT - I**

2. Describe E-commerce and its scope. Also compare it with Traditional Commerce. 16
3. Explain the application of E-commerce in Direct marketing and selling. 16

**UNIT - II**

4. Describe Porter's Value Chain Model in detail. 16
5. Explain the following : 16
  - (i) Communication Channel Threats
  - (ii) Copyright and Intellectual Property

**UNIT - III**

6. Give a complete description about Electronic Payment System. 16
7. Describe Security System for E-commerce in detail. 16

**UNIT - IV**

8. What do you understand by Business to Business E-commerce ? Explain in detail. 16

9. Explain the following :

16

- (i) EDI Agreement
  - (ii) EDI Communication
-

(ii) What happens when an exception is caused in an inner try block of a nested try block ?

(iii) How exception-handling mechanisms can be used for debugging a program ?

9. Explain the following :

(a) Sealed classes and methods

8

(b) Interfaces in C#

8

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INTRODUCTION TO .NET

Paper : BCA-309

Time : Three hours ]

[ Maximum Marks : 80

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

1. Answer the following :

2 × 8 = 16

(a) What are abstract classes ?

(b) What is automatic memory management ?

(c) What are control constructs in C# ?

(d) What is function overriding ?

(e) Why C# is more object-oriented ?

(f) What is the scope of variables ?

(g) What is metadata in .NET ?

(h) What are constructors in C# ?

### UNIT - I

2. (a) What are web forms ? What are their salient features ? What are the components of a web form ? Illustrate their working. 8

(b) What is Visual-Studio .Net ? Enumerate its capabilities for C# application development. 8

3. Explain the following :

(a) .NET Framework 8

(b) Namespaces in .NET 8

### UNIT - II

4. (a) What is C# ? How is it different from Java ? Explain. 8

(b) What are Class Libraries in C# ? Illustrate. 8

5. Explain the following :

(a) Data types in C# 8

(b) Boxing and Unboxing 8

### UNIT - III

6. (a) What is a method in C# ? How a method is invoked in C# ? What is the significance of writing Main method in different ways ? Also give two examples where method overloading is applied. 8

(b) What are various data access methods ? Which data access method is used in .NET and why ? Illustrate its benefits over other methods. 8

7. Explain the following :

(a) Operator precedence & associativity 8

(b) for and for each loops 8

### UNIT - IV

(a) What is exception handling in C# ? What are the major tasks involved in handling exceptions ? What are the exceptions that occur commonly in C# programs ? 7

(b) Answer the following : 9

(i) Why is proper ordering of catch blocks necessary in C# ?

9. (a) Explain any *two* inbuilt functions of String Class and String Buffer Class each with their respective syntax.
- (b) Write a short Java code to present how different operations can be performed on file in a Java program.

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OBJECT TECHNOLOGIES & 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. Compulsory Question :

- (a) What is the meaning of "public static void main (String args[]) ?
- (b) JVM is a platform dependent (T/F). Justify your answer.

- (c) What is the use of "this" keyword ?
- (d) What is a Wrapper Class ?
- (e) What is use of final keyword ?
- (f) Define run time Exception.
- (g) What is difference between interface and abstract class ?
- (h) What are transient and volatile modifiers ?

#### UNIT - I

- 2. (a) What is object-oriented approach ? How object-oriented approach is different from procedure oriented approach ? Discuss the benefits and applications of OOPs.
- (b) What is encapsulation ? How is it achieved in OOPs ?
- 3. (a) What is inheritance ? Compare and contrast its different types.
- (b) Discuss the structure of a java program.

#### UNIT - II

- 4. (a) What is constructor ? Discuss the concepts of parameterized and copy constructor with code snippet.
- (b) How object can be used as parameter ? Illustrate with code written in JAVA.
- 5. (a) Discuss the garbage collection mechanism in JAVA.
- (b) How array is used in JAVA ? Discuss with example.

#### UNIT - III

- 6. What is Package ? How packages are created, accessed and import in Java ? Illustrate with example.
- 7. What is exception handling ? How multiple exceptions are caught in a single program ? WAP to demonstrate the use of custom exception.

#### UNIT - IV

- 8. What is multithreading in Java ? Explain the inter thread communication with the help of suitable example.