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BCA 6<sup>th</sup> Semester (Only Re-appear)

Examination, December-2024

ARTIFICIAL INTELLIGENCE

Paper-BCA-308

Time allowed : 3 hours]

[Maximum marks : 80

**Note :** Attempt five questions in all selecting at least one question from each unit. Question No.1 is compulsory.

All questions carry equal marks.

1. Explain the following :

- (a) Importance of AI
- (b) Problem space.
- (c) Syntactic processing
- (d) Representing instances
- (e) Uses of expert system
- (f) Representing simple facts in logic
- (g) Constraint satisfaction
- (h) Learning by taking advice

8×2=16

#### Unit-I

2. Explain the AI (Artificial Intelligence) and its related field in detail. Also explain AI techniques in detail. 16

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3. Explain the following in detail :

- (a) Hill Climbing 8
- (b) Issues in the design of the search problem 8

#### Unit-II

4. Explain the following in detail :

- (a) Computable function and predicate 8
- (b) Various approaches used in knowledge representation 8

5. What do you mean knowledge representation? What are the characteristics of a knowledge representation system? Explain how can inheritable knowledge be represented? 16

#### Unit-III

6. (a) What is natural language processing? Also explain semantic processing in detail. 8

(b) What is Learning? Explain rote learning and explanation based learning in detail. 8

7. Explain the following in detail :

- (a) Learning in problem solving 8
- (b) Discourse and pragmatic processing 8

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#### Unit-IV

8. What is Knowledge? Explain the concept of representing using domain specific knowledge in detail. 16

9. (a) What is an Expert System? What are the different applications of expert systems? 8

(b) Explain the concept of expert system shells in detail. 8

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INTRODUCTION TO .NET

Paper-BCA-309

Time allowed : 3 hours]

[Maximum marks : 80

**Note :** (i) Attempt five questions in all by selecting one question from each unit. Question No.1 is compulsory.

(ii) All questions carry equal marks.

1. (a) What is function overriding?
- (b) Why C# is more object-oriented?
- (c) What are abstract classes?
- (d) What are control constructs in C# ?
- (e) What is automatic memory management?
- (f) What is metadata in .NET?

**Unit-I**

2. (a) What is Visual-Studio.Net? Enumerate its capabilities for C# application development.
- (b) What are web forms? What are their salient features? What are the components of a web form? Illustrate their working.

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3. Explain the following :
- (a) .NET Framework
  - (b) Namespaces in .NET
- Unit-II**

4. (a) What are Class Libraries in C# ? Illustrate.  
(b) What is C#? How it is different from Java? Explain.

5. Explain the following :

- (a) Data types in C#
- (b) Boxing and Unboxing

**Unit-III**

6. (a) What are various data access methods? Which data access method is used in .NET and why? Illustrate its benefits over other methods.  
(b) 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.
7. Explain the following :
- (a) Operator precedence & associativity
  - (b) for and foreach loops

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**Unit-IV**

8. (a) What do you understand by exception handling in C#? What are the major tasks involved in handling exceptions? What are the exceptions that occur commonly in C# programs?  
(b) Answer the following :
- (i) Why is proper ordering of catch blocks necessary in C#?
  - (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
  - (b) Interfaces in C#

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B.C.A. 6<sup>th</sup> Semester (Only Reappear)

Examination, December - 2024

**OBJECT TECHNOLOGIES AND PROGRAMMING  
USING JAVA**

**Paper -BCA-307**

*Time allowed : 3 hours] [Maximum marks : 80*

**Note :** *Question No. 1 is compulsory. Attempt five questions in total, the first being compulsory and select one question from each unit.*

1. Write a short note on the following :

- (a) Data Abstraction and Encapsulation. 2
- (b) Applications of OOPs 2
- (c) Java Virtual Machine 2
- (d) Abstract Classes 2
- (e) Throw and throws keyword 2
- (f) CLASSPATH in Java 2
- (g) Stream Classes 2
- (h) String Buffer classes 2

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## Unit - I

2. (a) Differentiate between Procedure-oriented and Object-oriented Languages. 8
- (b) What are Object-oriented Language? What are their main Benefits and applications? 8
3. Define the following terms: 4×4=16

- (a) Abstraction
- (b) Inheritance
- (c) Polymorphism
- (d) Encapsulation

## Unit - II

4. (a) Why is Java more suitable than other languages? Explain its essential features. 10
- (b) What are control statements in JAVA? Write a program to show the use of the For loop. 6

5. Describe the following in Java :

- (a) Data types 4
- (b) Method Overloading 4
- (c) Method Overriding 4
- (d) Constructors 4

## Unit - III

6. (a) What do you mean by exceptions? How can they be handled in Java? What are the advantages of using an exception-handling mechanism in a program? Illustrate with example. 8
- (b) Explain User-defined Exceptions with the help of the program. 8
7. (a) What are Abstraction and Abstract classes in OOPs? How we can achieve abstraction in Java? Explain using a suitable example. 8
- (b) What are Java packages? How are they accessible? 8



## Unit - IV

8. (a) Explain the concept of multithreading. How can a thread be created? Explain with the help of a program. 8

(b) What do you mean by thread priority? Write a program to implement thread priority. 8

## Unit - III

9. (a) What is an I/O stream in Java? Explain reading and writing in files with Java code. 8

(b) Explain String operations in Java. 8

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E-Commerce

Paper : BCA-306

Time allowed : 3 hours]

[Maximum marks : 80

**Note : Attempt five questions in all. Question No. 1 will be**

**compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each unit.**

1. Explain the following :  $8 \times 2 = 16$

- (a) E-Commerce in Industry
- (b) EDI agreement
- (c) Electronic market
- (d) Internet
- (e) Traditional Commerce Vs Electronic Commerce
- (f) Change Card
- (g) Value Chains
- (h) Clients threats

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**Unit-I**

2. (a) What is E-Commerce? Explain Scope and Future of E-Commerce in detail. 8
- (b) Explain the Application of E-Commerce in Direct Marketing and Selling in detail. 8
3. Explain the following in detail :
  - (a) Impact of E-Commerce 8
  - (b) Obstacles in adopting E-Commerce 8

**Unit-II**

4. Explain the following in detail :
  - (a) Inter-organizational value chains and Porter's value chain model 8
  - (b) Security Threats in E-Commerce 8
5. Explain the following in detail :
  - (a) Computer Security classification 8
  - (b) Supply chain and strategic Business unit chains 8

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**Unit-III**

6. (a) What is electronic payment system? Explain Electronic cash and electronic wallets in detail. 8
- (b) Write detail note on Insuring Transaction Integrity and Protecting Client computers. 8
7. Explain the following in detail :
  - (a) Smart card and Credit card system 8
  - (b) Protecting E-Commerce Assets and Protecting intellectual property 8

**Unit-IV**

8. Explain the following in detail :
  - (a) Inter-organizational Trade cycle 8
  - (b) EDI implementation and EDI Security 8
9. Explain the following in detail :
  - (a) Benefits of EDI and EDI standards 8
  - (b) Credit Transaction Trade cycle in detail. 8

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