

**CHOICE BASED CREDIT SYSTEM SEMESTER SCHEME**  
**B.C.A. SIXTH SEMESTER DEGREE EXAMINATION MAY 2024**  
**COMPUTER APPLICATIONS**  
**PHP and MYSQL**

**Duration:2 Hours****Max Marks:60**

**PART A**

**Answer any FIVE questions:****(5×2= 10)**

- 1) What are operators? List any two types of operators.
- 2) What is an array? Mention its types.
- 3) List the different categories of Library functions.
- 4) What do the following MySQLi functions return  
i) mysqli\_connect\_error()      ii) mysqli\_connect\_errno()
- 5) How to define a constructor in PHP class?
- 6) How do you install and configure PHP?

**PART B**

**Answer any FIVE questions :****(5×6= 30)**

- 7) Explain get method with an example.
- 8) Explain the ? operator and simple if statement with syntax and example.
- 9) Explain with example the date() function with different formatting codes.
- 10) Explain the different categories of SQL statements with examples.
- 11) Explain the concept of class and object with an example.
- 12) Explain with example, reading and writing files in PHP.

**PART C**

**Answer any TWO questions :****(2×10= 20)**

- 13) Explain the following string functions with syntax and example:  
i) empty()    ii) str\_replace()    iii) strrev()    iv) substr()    v) strtolower()  
vi) ucfirst()    vii) strlen()    viii) str\_repeat()    ix) str\_word\_count()  
x) strtoupper()
- 14) Explain any three types of loops supported by PHP.
- 15) With the help of an example, explain how to create and invoke functions.

**CHOICE BASED CREDIT SYSTEM SEMESTER SCHEME**  
**B.C.A. SIXTH SEMESTER DEGREE EXAMINATION MAY 2024**  
**COMPUTER APPLICATIONS**

**Artificial Intelligence and Application**

**Duration:2 Hours**

**Max Marks:60**

**PART A**

**Answer any FIVE questions:**

**(5×2= 10)**

- 1) Give an example of a Partially Observable environment.
- 2) List the steps to solve problem.
- 3) Write the truth table for if and then.
- 4) What is formal language?
- 5) Write the time and space complexity of Depth first search(DFS).
- 6) What are Artificial Neural Networks?

**PART B**

**Answer any FIVE questions :**

**(5×6= 30)**

- 7) Distinguish between the following environments with examples:
  - i) Fully observable vs partially observable environment
  - ii) Known vs unknown environment
- 8) Explain Vacuum world problem with a neat diagram.
- 9) Explain Unification and its conditions.
- 10) Explain the different components of agents with suitable examples.
- 11) Explain Knowledge-based agent in detail with a neat diagram.
- 12) Draw a decision tree to decide whether a patron will wait for a table at a restaurant. Explain the various input attributes.

**PART C**

**Answer any TWO questions :**

**(2×10= 20)**

- 13) Explain Artificial Intelligence according to the different approaches.
- 14) Briefly explain a) Greedy best-first search b) A\*search
- 15) a) Explain the properties of SVM's.  
b) Write a note on single-layer feed forward network of ANNs.

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**CHOICE BASED CREDIT SYSTEM SEMESTER SCHEME  
B.C.A. SIXTH SEMESTER DEGREE EXAMINATION MAY 2024**

**COMPUTER APPLICATIONS**

**Advanced JAVA and J2EE**

**Duration:2 Hours**

**Max Marks:60**

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**PART A**

**Answer any FIVE questions:**

**(5×2= 10)**

- 1) Mention any two advantages of Java Beans.
- 2) Mention the legacy classes defined by java.util.
- 3) What is the usage of the equalsIgnoreCase() method?
- 4) Why is the directive tag used in JSP?
- 5) How is the length of a string determined?
- 6) Which are the methods that are central to the life cycle of a servlet?

**PART B**

**Answer any FIVE questions :**

**(5×6= 30)**

- 7) Explain each of the following methods with examples: i) equals( )    ii) ordinal( )
- 8) Explain the Collections Framework in Java. Mention the goals of the Collection Framework.
- 9) With a suitable example, demonstrate the use of length() and capacity() methods of StringBuffer.
- 10) Explain any three methods of each of the following:
  - i. DatabaseMetaData object methods
  - ii. ResultSet object methods
- 11) With a neat diagram, explain the MVC Architecture in Java.
- 12) Explain the following String methods: i. trim()                      ii. replace()

### PART C

Answer any TWO questions :

(2×10= 20)

- 13) a) Describe annotations with an example.  
b) Explain the following: i. Single-member annotations. ii. Marker annotations
- 14) Give a brief overview of the JDBC Process.
- 15) a) With a neat diagram, explain the Remote Method Invocation (RMI) Architecture.  
b) What are the steps for building a simple client/server application by using RMI?

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**CHOICE BASED CREDIT SYSTEM SEMESTER SCHEME  
B.C.A. SIXTH SEMESTER DEGREE EXAMINATION MAY 2024**

**COMPUTER APPLICATION**

**Web Content Management System**

**Duration:2 Hours**

**Max Marks:60**

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**PART A**

**Answer any FIVE questions:**

**(5×2= 10)**

- 1) What is embedding audio players in audio production and editing?
- 2) What is shared hosting? Write any two advantages.
- 3) Write the importance of CSS preprocessors in website design within a CMS environment.
- 4) What is E-commerce Experiences in virtual reality?
- 5) What are the challenges in maintaining a WikiSite?
- 6) What are two advantages of using Joomla for website development compared to traditional methods?

**PART B**

**Answer any FIVE questions :**

**(5×6= 30)**

- 7) What distinctions exist among different types of Content Management Systems?
- 8) Explain the role of site planners in content management?
- 9) What steps are involved in efficiently planning and constructing dynamic web content sites using a content management system (CMS), focusing on functionality, user experience, and engagement?
- 10) Craft a summary detailing the steps involved in generating 3D animations, alongside enumerating the primary attributes that define 3D animation.
- 11) Explain the concept of screencasting, including tools and techniques.
- 12) What is Moodle? Explain the key features of Moodle.

**CHOICE BASED CREDIT SYSTEM SEMESTER SCHEME**  
**BCA SIXTH SEMESTER DEGREE EXAMINATION MAY 2024**  
**COMPUTER APPLICATIONS**  
**Fundamentals of Data Science**

**Duration:2 Hours****Max Marks:60**

**PART A**

**Answer any FIVE questions:****(5×2= 10)**

- 1) What does the ETL process consist of?
- 2) List any two benefits of implementing a data warehouse.
- 3) What is frequent itemset generation?
- 4) Compare classification and cluster analysis.
- 5) List the two major categories of Data Mining tasks.
- 6) Give one example of density based method for clustering.

**PART B**

**Answer any FIVE questions :****(5×6= 30)**

- 7) Write a note on Graph based data.
- 8) Write a note on i) Data reduction ii) Data transformation
- 9) Write a note on single link algorithm.
- 10) Write a note on divisive clustering with an example.
- 11) What is expected maximization method?
- 12) Explain the various techniques involved in web mining with a neat diagram.

**PART C**

**Answer any TWO questions :****(2×10= 20)**

- 13) Explain i) Neural networks ii) Genetic algorithms iii) Rough set techniques  
iv) Support vector machines
- 14) Explain star schema with a figure and example.
- 15) Explain the limitations of support-confidence framework.

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