(2021 batch onwards)

G 601 DC1.6   Reg. No. ☐☐☐☐☐☐☐

St Aloysius College (Autonomous) Mangaluru

B.C.A. Semester VI – Degree Examination
May - 2024
PHP and MySQL

Time: 2½ hrs.   Max Marks: 60

PART – A

Answer any <u>SIX</u> of the following.   (6x2=12)

1. a) How do you declare a constant variable in PHP? Give example.

    b) What is NULL data type?

    c) What is the difference between index and an associative array?

    d) What is the difference between formal parameters and actual parameters?

    e) How to return multiple values from a function? Explain.

    f) What is type casting?

    g) What is the standard PHP function for connecting to a MySQL database?

    h) What is the use of isset() function?

PART – B

Answer any <u>ONE</u> FULL question from each unit.   (12x4=48)

UNIT – I

2. a) Explain any six features of PHP in detail.   6
    b) Explain any six data types in PHP with example each.   6

OR

3. a) Explain any three categories of operators in PHP.   6

    b) Explain for and for-each loop with syntax and example.   6

UNIT – II

4. a) Explain any three array functions with example.   6
    b) How can you create a multidimensional array? Explain with   6
       example.

OR

5. a) How to create an associative array in PHP? Explain with   6
       example.

    b) Explain if-else and switch statements with example   6

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UNIT – III

6. a) How to create Constructor and Destructor in PHP? Explain with   **6**
       example.

   b) What is variable scope in PHP? Explain the concept of local   **6**

       and global variables with example.

OR

7. a) How to create a string in PHP? Explain any four string   **6**
       functions with example.

   b) What syntax would you use to create a subclass from an   **6**
       existing one in PHP? Explain with example.

UNIT – IV

8. a) Explain the process of using MySQL with PHP   **6**

   b) What are cookies? Explain setCookie() function with syntax.   **6**

OR

9. a) Explain any three MySQL database operations with example.   **6**

   b) Write a note on Sessions in PHP.   **6**

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St Aloysius College (Autonomous)
Mangaluru

B.C.A Semester VI – Degree Examination
MAY -2024
Advanced JAVA and J2EE

Time: 2½Hours.   Max Marks: 60

PART –A

1. Answer any <u>TEN</u> of the following.   (6X2=12)

   a) What is JDBC? Explain its purpose in Java applications.

   b) What is the role of the J2EE runtime environment in enterprise application deployment?

   c) Write any two advantage and disadvantage of cookies?

   d) How can a servlet extract parameter from a client request?

   e) Write any two advantage of servlets.

   f) What is deployment descriptor?

   g) List major classes and interfaces of JDBC

   h) What are JDBC statements?

PART –B

Answer any <u>ONE</u> <u>FULL</u> question from each unit 12 marks each(4x12=48)

UNIT - I

2. a) Explain J2EE Component technologies   (4)

   b) Describe the characteristics and components of a 3-Tier Architecture.   (4)

   c) Write a note J2EE Communication Technologies   (4)

3. a) What is need for enterprise computing? What are the advantages of J2EE?   (4)

   b) Explain J2EE Containers and connectors.   (4)

   c) Write the Advantages of J2EE   (4)

UNIT – II

4. a) Explain the anatomy of java Servlets in detail.   (4)

   b) What are the advantages of servlets over CGI programming? (4)

   c) What is a session? Explain the properties of session in java servlet   (4)

5. a) Explain Architecture diagram of servlets.   (4)

   b) What are cookies? How do you create cookies using servlet? Explain with the help of an example.   (4)

   c) How do you read Data from servlets? Explain with an example. (4)

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UNIT – III

6. a) What are the various steps in JDBC process? Explain with a   **(4)**
suitable example.

   b) Write a note on JDBC Components.   **(4)**

   c) List different types of drivers. Explain any one in detail.   **(4)**

7. a) What is JDBC? Draw and explain JDBC Architecture.   **(4)**

   b) Write a Note on Prepared Statements.   **(4)**

   c) Explain any two methods of statement interface in detail.   **(4)**

UNIT – IV

8. a) Create a servlet that accepts user name and password field input   **(5)**
through a form and displays the submitted data.

   b) Write a JDBC code for the following operations.   **(7)**
   a) To establish a connection with data base
   b) To retrieve all the records from the data base
   c) To insert data into a database

9. a) How do you handle form data in servlets? Explain   **(5)**

   b) Write a JDBC program to perform the following operations on a   **(7)**
   Book table of Library database(Book_Id, Book_Title,
   Book_Author, Publication, Book_Price, Book_Copies)
   MENU   **ST ALOYSIUS COLLEGE LIBRARY**
                                MANGALURU - 575 003
   (a)   Add a New Book
   (b)   Delete a Specifies Book
   (c)   Display

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St Aloysius College (Autonomous)
Mangaluru

B.C.A. Semester VI – Degree Examination
MAY-2024
ARTIFICIAL INTELLIGENCE AND APPLICATIONS

Time: 2½ hrs. .   Max Marks: 60

PART – A

Answer any <u>SIX</u> of the following.   **(6x2=12)**

1. a) Define Artificial Intelligence.
   b) What are the different types of agents?
   c) Define support vector machine.
   d) What are the four components to define a problem? Define them.
   e) List some of the uninformed search techniques.
   f) What is knowledge-based agents?
   g) Define machine learning.
   h) List the different applications of AI.

PART – B

Answer any <u>ONE</u> FULL question from each unit.   **(12x4=48)**

UNIT – I

2. a) Explain the different types of agents.   **(8)**
   b) What are the different properties of task environment?   **(4)**

OR

3. a) List and explain the foundations of Artificial Intelligence.   **(6)**

   b) Explain the what is PEAS with example. **ST ALOYSIUS COLLEGE LIBRARY** **(6)**

UNIT – II

4. a) Explain any two informed search strategies with suitable   **(8)**
   examples.
   b) Differentiate between Depth first search and Breadth first   **(4)**
   search.

OR

5. a) Write a note on A* Algorithm with suitable examples.   **(6)**

   b) What are the differences between informed and uninformed   **(6)**
   search strategies?

UNIT – III

6. a) Define forward and backward chaining. Differentiate the same.
   (8)
   b) Differentiate propositional logic and first order logic. **(4)**

OR

7. a) Justify why propositional theorem proving is more important **(6)**
   than model checking.
   b) What is Logic explain in terms of Knowledge base ? **(6)**

UNIT – IV

8. a) Explain how decision trees are constructed and how they **(8)**

   make predictions.

   b) Explain neural network in detail. **(4)**

OR

9. a) Write a short note on classification and regression techniques. **(6)**

   b) Differentiate between supervised and unsupervised learning **(6)**
   with examples

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St Aloysius College (Autonomous) Mangaluru

B.C.A. Semester VI – Degree Examination
May- 2024

Fundamentals of Data Science

Time: 2½ hrs.   Max Marks: 60

PART – A

Answer any <u>SIX</u> of the following.   **(6x2=12)**

1. a) List two common techniques used in Data Mining.

   b) What is the difference between Data Mining and Knowledge Discovery in Databases (KDD)?

   c) Explain the term 'data cleaning' in the context of a Data Warehouse.

   d) Describe the process of data integration and transformation.

   e) What are association rules in Data Mining?

   f) Describe the basic concept of mining frequent patterns.

   g) What is data cube in data warehousing?

   h) Explain the concept of Bayes Classification Methods.

PART – B

Answer any <u>ONE</u> FULL question from each unit.   **(12x4=48)**

UNIT – I

2. a) Explain the challenges and opportunities of Data Mining in social media analytics.   **(4)**

   b) Discuss the impact of Data Mining on decision-making in businesses.   **(4)**

   c) Explain the process of Knowledge Discovery in databases (KDD) with a suitable example.   **(4)**

OR

3. a) Discuss the various steps involved in the Data Mining process with a suitable example.   **(4)**

   b) Describe the problems and issues associated with Data Mining in detail.   **(4)**

   c) Discuss the various applications of Data Mining in health care industries.   **(4)**

UNIT – II

4. a) Describe the steps involved in building a Data Warehouse. **(4)**

   b) Explain the challenges faced in maintaining a Data **(4)** Warehouse.

   c) Explain the process of data cleaning and its importance in **(4)** Data Warehousing.

OR

5. a) Discuss the role of a Data Warehouse in business intelligence. **(4)**

   b) Discuss the design considerations for a Data Warehouse and **(4)** the impact on performance.

   c) Discuss the architecture of a Data Warehouse with a suitable **(4)** diagram.

UNIT – III

6. a) Discuss the challenges in mining frequent patterns in large datasets. **(4)**

   b) Compare and contrast the Apriori and FP Growth algorithms **(4)** in terms of efficiency.

   c) Write the procedure for extracting association rules from **(4)** frequent item set.

OR

7. a) Describe the application of frequent pattern mining in market **(4)** basket analysis.

   b) Explain the Frequent Pattern Growth (FP Growth) algorithm **(4)** with an example.

   c) Discuss the Apriority algorithm in detail. **(4)**

UNIT – IV

8. a) Explain the Bayes Classification Methods with a suitable **(4)** example.

   b) Discuss hierarchical clustering methods and their advantages **(4)** over other clustering techniques.

   c) Explain the concept of cluster analysis and its importance in **(4)** Data Mining.

OR

9. a) Describe the Rule-Based Classification method and its **(4)** application.

   b) Describe the partitioning methods in clustering, such as k- **(4)** means and k-medoids.

   c) Discuss the process of Decision Tree Induction with an **(4)** example.

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St Aloysius College (Autonomous) Mangaluru

B.C.A. Semester VI – Degree Examination
May -2024
WEB CONTENT MANAGEMENT SYSTEM

Time: 2½ hrs.   Max Marks: 60

PART – A

Answer any <u>SIX</u> of the following.   (6x2=12)

1. a) What is content management system?

   b) Give any four examples for open-source CMS.

   c) List any four web hosting companies.

   d) What is the use of POP3 in web hosting?

   e) Define universal selector.

   f) Define Static website.

   g) What is simulation?

   h) What is the purpose of Quora platform?

PART – B

Answer any <u>ONE</u> FULL question from each unit.   (12x4=48)

UNIT – I

2. a) Explain the features of web content management system.   **(4)**

   b) Mention and explain the various types of content formats in   **(4)**
      CMS.

   c) Explain any four content development guidelines outlined by   **(4)**
      "Mick wood"

OR

3. a) Mention the various types of content management systems   **(6)**
      and provide a brief explanation of any three types.

   c) Describe the content development guidelines outlined by   **(6)**
      "Jacob Nielsen".

UNIT – II

4. a) List and explain the different types of Web Hosting services.   **(4)**

   b) List and explain the benefits of multimedia content.   **(4)**

   c) Write any four key aspects of multilingual content   **(4)**
   development.

OR

5. a) Why is web hosting important? Explain any five features of web   **(6)**
   hosting services.

   b) Explain the key features of any three screen casting tools.   **(6)**

UNIT – III

6. a) Explain any four differences between dynamic website over   **(4)**
   static website

   b) Explain any four selectors of CSS   **(4)**

   c) Explain any four key characteristics of wiki site.   **(4)**

OR

7. a) Explain the key features of dynamic website.   **(6)**

   b) Briefly explain the purposes of blog.   **(6)**

UNIT – IV

8. a) Explain different models of e-publishing with its characteristics.   **(4)**

   b) Explain any four key features of Moodle.   **(4)**

   c) Explain different types of simulation.   **(4)**

OR

9. a) Explain various e-publishing tools in different categories.   **(6)**

   b) Write the steps involved in adding quiz assessment in Moodle.   **(6)**

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