(2021 Batch onwards)

G 601 DC1.6 Reg. No.: | | | | | | | |

St Aloysius College (Autonomous)

Mangaluru

B.C.A. Semester VI – Degree Examination

April/May - 2026

PHP AND MYSQL

Time: 2 ½ Hours. **Max Marks: 60**

PART –A

1. **Answer any SIX of the following.** **(6x2=12)**

a) What is PHP? And why is it used in web development?

b) What is the use of $_REQUEST() method? Write the syntax of the same.

c) What are PHP library functions? Mention any two commonly used built-in functions.

d) Write a PHP code snippet to display the submitted value of a text field.

e) How does the === operators differ from the == operator in PHP?

f) Differentiate between error and exception.

g) What is the use of MYSQLi objects prepare() method.

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h) What is session in PHP? How does it differ from a cookie?

PART –B

Answer any ONE FULL question from each unit. **(4x12=48)**

UNIT – I

2. a) With syntax and example explain any six numeric functions in PHP script. **(6)**

b) Which are the different categories of data types supported by PHP? Explain. **(6)**

3. a) What are Constants? What does a constant() function do? Define the different ways of declaring constants with example. **(6)**

b) Mention and explain any six features of PHP. **(6)**

UNIT – II

4. a) Explain the following array functions with examples a) array_slice b)shuffle() c)array_diff() **(6)**

b) Explain for and for each loop with Syntax and example. **(6)**

5. a) What is the purpose of the switch statement, and when would you use it? Explain with syntax and example. **(6)**

b) Explain the different types of arrays with examples. **(6)**

UNIT – III

6. a) What are user defined functions? Explain with an example. Mention the benefits of user defined functions. **(6)**

b) What is the use of extend clause? Explain with an programming example. **(6)**

Contd...2

7. a) What is method overloading? Write a program demonstrating constructor overloading. **(6)**

   b) Write a PHP program to read item name, item code, price and quantity. Calculate the total bill. **(6)**

UNIT – IV

8. a) How do you connect PHP to a MySQL database? Write a PHP program to insert, retrieve, and delete records in a MySQL table using mysqli functions. **(6)**

   b) Describe PHP's error categories. Explain the mechanism of controlling error reporting in PHP. **(6)**

9. a) What are exceptions? How to handle exceptions in PHP? Explain any three methods of PHP exception object. **(6)**

   b) Write a PHP script to execute a MySQL query that retrieves all records from a students table and counts the total number of returned rows. **(6)**

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B.C.A. Semester VI – Degree Examination

April/May - 2026

ADVANCED JAVA AND J2EE

Time: 2 ½ Hours. **Max Marks: 60**

PART –A

1. **Answer any SIX of the following.** **(6x2=12)**

a) List different J2EE service technologies.

b) What are enterprise applications in J2EE?

c) What is a Connection Interface in JDBC?

d) List any two methods of ResultSet Interface.

e) Write any two benefits of servlet.

f) What is a Deployment Descriptor?

g) Write the differences between include and forward in JSP.

h) Give an example to illustrate the use of getParameter() method in JSP?

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PART –B

Answer any ONE FULL question from each unit. **(4x12=48)**

UNIT – I

2. a) Briefly explain J2EE Components. **(6)**

b) Explain J2EE Containers and Connectors. **(6)**

3. a) Describe the characteristics and components of a 3-Tier architecture. **(6)**

b) Explain the need for enterprise computing and the advantages of using J2EE. **(6)**

UNIT – II

4. a) Explain the method to query a database and display the results. **(6)**

b) Explain the use of PreparedStatement with an example. **(6)**

5. a) With a neat diagram, explain JDBC architecture. **(6)**

b) Describe the essential steps involved in connecting to a database using JDBC. Explain with a coding example. **(6)**

UNIT – III

6. a) What are cookies? Explain the significance of cookies with an example. **(6)**

b) List and explain any five methods of the HttpServletRequest interface. **(6)**

7. a) What is session? Explain the properties of a session in Java Servlet. **(6)**

b) How do you read data from servlets? Explain with an example. **(6)**

UNIT – IV

8. a) Explain any five implicit objects in JSP. **(6)**

b) Explain the JSP Life Cycle with an example. **(6)**

9. a) Explain the attributes of the JSP page directive tag. **(6)**

b) How do you create a simple JSP page? Provide an example. **(6)**

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B.C.A. Semester VI – Degree Examination

April/May - 2026

ARTIFICIAL INTELLIGENCE AND APPLICATIONS

Time: 2 ½ Hours. **Max Marks: 60**

PART –A

1. **Answer any SIX of the following.** **(6x2=12)**

a) What is the structure of agent?

b) Define Simple reflex agent.

c) Differentiate informed and Uninformed searching technique.

d) What is an artificial neural network?

e) What is Lifting in Forward Chaining?

f) Give two examples for effective propositional model checking.

g) Define supervised learning.

h) What is Robotics?

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PART –B

Answer any ONE FULL question from each unit. **(4x12=48)**

UNIT – I

2. a) What is an intelligent agent? Explain working of intelligent agent with an example. **(6)**

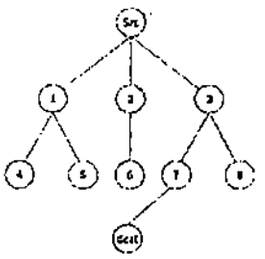
b) What is task environment? Explain PEAS in task environment. **(6)**

3. a) What is rational agent? Explain goal agent with neat diagram. **(6)**

b) Write a note on history of Artificial Intelligence. **(6)**

UNIT – II

4. a) Explain Best first search for the following example.



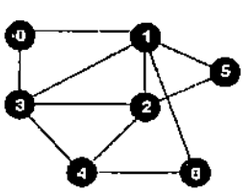
Src	20
1	22
2	21
3	20
4	25
5	24
6	30
7	5
8	12
dest	0

(6)

b) Explain Depth limited search with an example. **(6)**

5. a) What is a search problem? How do you define a search problem formally? Explain. **(6)**

b) Explain breadth first search algorithm for the given graph.



(6)

Contd...2

UNIT – III

6. a) Justify why propositional theorem proving is more important than model checking. **(6)**

   b) Write a note on logic in knowledge based AI. **(6)**

7. a) Write a note on Agents Based Propositional Logic. **(6)**

   b) What is backward chaining and how it is important in logic programming explain. **(6)**

UNIT – IV

8. a) Explain different applications of machine learning. **(6)**

   b) Write a detailed note on different forms of learning, explain each with suitable examples. **(6)**

9. a) Explain Decision Tree in machine learning with suitable examples. **(6)**

   b) Write a note on Support vector machine. Explain with example. **(6)**

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B.C.A. Semester VI – Degree Examination

April/May - 2026

FUNDAMENTALS OF DATA SCIENCE

Time: 2½ hrs. Max Marks: 60

PART – A

Answer any SIX of the following. (6x2=12)

1. a) How does classification works?
   b) Define support and confidence.
   c) Define virtual data warehouse.
   d) List the different categories of data.
   e) Write any two strategies of data transformation.
   f) What is Bayesian classification method?
   g) Write the significance of data integration.
   h) What is neural network?

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PART – B

Answer any ONE FULL question from each unit. (12x4=48)

UNIT – I

2. a) What is the role of data mining in business sector? Explain with respect to any three fields. (6)
   b) Explain any three data mining techniques. (6)

OR

3. a) Describe the differences between structured, semi-structured, and unstructured data with examples. (6)
   b) What is machine learning? Explain its significance in data mining. (6)

UNIT – II

4. a) Explain the functions of ETL tool. (6)
   b) Explain data cube model with an example. (6)

OR

5. a) Explain the major tasks involved in data pre-processing. (6)
   b) What is a data warehouse? What are the different key features of data warehouse? Explain. (6)

UNIT – III

6. a) What is FP Growth in frequent pattern mining? Explain the construction of FP-tree using the following transaction database with a minimum support count of 3, and list all the frequent itemsets. (6)

Transaction ID	Items
T1	Milk, Bread, Butter
T2	Bread, Milk
T3	Sugar, Milk, Bread
T4	Bread, Butter
T5	Bread, Butter, Milk
T6	Milk, Sugar
T7	Milk, Bread, Butter
T8	Milk, Butter

Contd...2

b) Write a note on Association rule. **(6)**

OR

7. a) What is a frequent itemset? Generate frequent itemset for the following example using Apriori algorithm for the support=50% and confidence=50%. **(6)**

Transaction ID	Item Purchased
T1	Milk, Bread, Butter
T2	Bread, Butter
T3	Milk, Bread
T4	Milk, Butter
T5	Bread, Butter

b) Explain any three terms with examples, that are used in frequent item set mining methods? and draw the relationship between them. **(6)**

UNIT – IV

8. a) List and explain the issues in classification. **(6)**

b) The following table shows a training dataset of emails with attributes: Offer, Win, Buy and Class (Spam / Not Spam).

Using Bayes Theorem, classify a new email with the following features:

Offer = Yes, Win = Yes, Buy = No.

Email	Contains Offer	Contains Win	Contains Buy	Spam
1	Yes	Yes	Yes	1
2	No	Yes	No	0
3	Yes	No	Yes	1
4	No	No	No	0
5	No	Yes	No	1

(6)

OR

9. a) Describe the Decision Tree Induction algorithm. How does it works? Explain. **(6)**

b) Define clustering. How does K-nearest-Neighbour classifier works? Explain. **(6)**

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B.C.A. Semester VI – Degree Examination

April/May - 2026

WEB CONTENT MANAGEMENT SYSTEM

Time: 2½ hrs. **Max Marks: 60**

PART – A

Answer any SIX of the following. **(6x2=12)**

1. a) List any four examples for open source CMS.
   b) Define virtual reality.
   c) What is wiki site?
   d) List any four web hosting companies.
   e) Give any two examples for dynamic website.
   f) What is Moodle?
   g) Mention various forms of textual content found on a webpage.
   h) Define Blog.

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PART – B

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

UNIT – I

2. a) Describe the content development guidelines outlined by Jacob Nielsen. **(6)**
   b) Explain the types of audio editing with suitable examples. **(6)**

OR

3. a) Mention the various types of content management systems and provide a brief explanation of each. **(6)**
   b) Explain any six applications of content management system. **(6)**

UNIT – II

4. a) Explain any six features of screen Casting. **(6)**
   b) Write any six key aspects of multilingual content development. **(6)**

OR

5. a) Explain any six types of presentation software that are commonly used in conjunction with WCMS platforms **(6)**
   b) List and explain the different types of web hosting services. **(6)**

UNIT – III

6. a) Mention and explain the key features of dynamic website. **(6)**
   b) Explain the three ways of including CSS in the document. **(6)**

OR

7. a) Explain the concept and features of Wiki websites. **(6)**
   b) Explain any six selectors of CSS. **(6)**

UNIT – IV

8. a) What is virtual reality? Explain any five Applications of virtual reality. **(6)**
   b) Explain various e-publishing tools in different categories. **(6)**

OR

9. a) List and explain different types of widely used discussion forums. **(6)**
   b) Explain the advantages of simulation. **(6)**

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