

(2021 Batch onwards)

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St Aloysius College (Autonomous)

Mangaluru

B.C.A. Semester VI – Degree Examination

April/May - 2025

PHP AND MYSQL

Max Marks: 60

Time: 2½ hrs.

PART – A

Answer any SIX of the following.

(6x2=12)

1. a) What is the difference between formal and actual parameters in PHP?
- b) Differentiate between echo() and print() statements.
- c) What PHP function is used to establish a connection with a MySQL database?
Write an example of a connection string.
- d) What is a cookie? How does it differ from a session?
- e) How do you initialize the object's properties?
- f) Define Variable. Mention the different rules for declaring PHP variables.
- g) What is the purpose of the count() function in PHP?
- h) Which function is used to display type value of a variable? Give the syntax of the same.

PART – B

Answer any ONE FULL question from each unit.

(12x4=48)

UNIT – I

2. a) Mention and explain any six features of PHP. **(6)**
- b) Which are the different categories of data types supported by PHP?
Explain. **(6)**

OR

3. a) With syntax and example explain any six numerical functions used in PHP. **(6)**
- b) When to use GET() and POST() methods? Explain. **(6)**

UNIT – II

4. a) What is the purpose of switch statement? Explain with syntax and example. **(6)**
- b) Explain the different types of arrays with examples. **(6)**

OR

5. a) Explain for and for each loop with Syntax and example. **(6)**
- b) What is the difference between include() and require() in PHP? **(6)**

UNIT – III

6. a) Explain how to create and invoke user-defined functions in PHP. Write a program that demonstrates a function with both default and required parameters. **(6)**
- b) What is a class and an object in PHP? Explain how to declare and instantiate a class with the help of a programming example. **(6)**

Contd...2

OR

- 7. a) What is a constructor? Differentiate between normal functions and constructor functions. (6)
- b) How to set default argument values in functions? Explain with the help of an example. (6)

UNIT – IV

- 8. a) What are sessions? How do you access its value on a different page? Explain with the help of an example. (6)
- b) List and explain the security features of cookies. (6)

OR

- 9. a) Describe PHP's error categories. Explain the mechanism of controlling error reporting in PHP. (6)
- b) Explain the common MySQL commands used for database operations. (6)

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B.C.A. Semester VI – Degree Examination
April/May - 2025

ADVANCED JAVA AND J2EE

Time: 2½ hrs.

Max Marks: 60

PART – A

Answer any **SIX** of the following.

(6x2=12)

1. a) What is the function of the J2EE runtime environment?
- b) What are enterprise applications in J2EE?
- c) What is JDBC API?
- d) What is the function of ResultSet Interface?
- e) How does HttpServletRequest differ from HttpServletResponse?
- f) What is a Servlet?
- g) What are JavaBeans? List two benefits.
- h) What is JSP? Explain its advantages over Servlets.

PART – B

Answer any **ONE FULL** question from each unit.

(12x4=48)

UNIT – I

2. a) Explain J2EE Containers and Connectors. (6)
- b) Briefly explain J2EE Components. (6)

OR

3. a) Explain J2EE Communication Technologies. (6)
- b) What is the need for enterprise computing? What are the advantages of J2EE? (6)

UNIT – II

4. a) Explain the method to query a database and display the results. (6)
- b) How to use PreparedStatement? Explain with an example. (6)

OR

5. a) List different types of JDBC drivers and explain Type I and Type II drivers in detail. (6)
- b) Draw and explain the JDBC architecture. (6)

UNIT – III

6. a) Explain the anatomy of Java Servlets in detail. (6)
- b) How do you read data from servlets? Explain with an example. (6)

OR

7. a) Briefly explain with an example, how session tracking is achieved? (6)
- b) Explain the architecture diagram of servlets. (6)

UNIT – IV

8. a) Explain any five implicit objects in JSP. (6)
- b) Explain basic JSP tags with examples. (6)

OR

9. a) What are Java Beans? Explain their advantages. (6)
- b) With an example, explain how do you create a simple JSP page? (6)

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B.C.A. Semester VI – Degree Examination
April/May - 2025

ARTIFICIAL INTELLIGENCE AND APPLICATIONS

Time: 2½ hrs.

Max Marks: 60

PART – A

Answer any **SIX** of the following.

(6x2=12)

1. a) List any four applications of AI.
- b) Differentiate episodic and sequential environment.
- c) Name any two Heuristic search methods.
- d) List any two uninformed search techniques.
- e) What are first order logics?
- f) What are syntax and semantics of first order logic?
- g) Differentiate unsupervised learning and reinforcement learning.
- h) What is machine learning?

PART – B

Answer any **ONE FULL** question from each unit.

(12x4=48)

UNIT – I

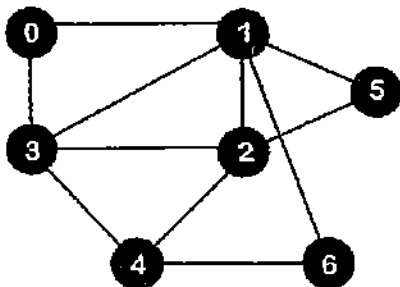
2. a) What is an intelligent agent? Explain working of intelligent agent with an example. (6)
- b) Describe PEAS in task environment in detail. (6)

OR

3. a) Differentiate Simple reflex agent and model based reflex agent. (6)
- b) With neat diagram, explain Agent and environment relation in AI. (6)

UNIT – II

4. a) Explain Depth limited search with an example. (6)
- b) Explain breadth first search algorithm for the given graph, consider node 0 as initial node. (6)

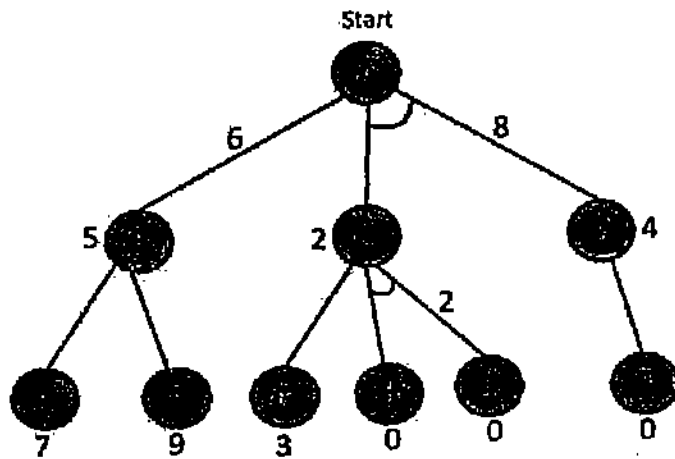


(6)

OR

Contd...2

5. a) Explain AO* search for the following example.



(6)

b) Explain Iterative Deepening search with example.

(6)

UNIT - III

6. a) What is Logic? Explain in terms of Knowledge base.

(6)

b) Justify why propositional theorem proving is more important than model checking.

(6)

OR

7. a) What is forward and backward chaining? Explain.

(6)

b) Write a note on Effective Propositional Model Checking.

(6)

UNIT - IV

8. a) Write any six differences between supervised and unsupervised learning.

(6)

b) Explain the structure and working of an artificial neural network.

(6)

OR

9. a) Describe i) Information Retrieval and its applications ii) text classification and its applications.

(6)

b) Write a note on i)Image processing ii)Speech recognition iii)Robotics

(6)

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B.C.A. Semester VI – Degree Examination

April/May - 2025

FUNDAMENTALS OF DATA SCIENCE

Time: 2½ hrs.

Max Marks: 60

PART – A

Answer any **SIX** of the following.

(6x2=12)

1. a) What is neural network?
- b) Define the term prediction and accuracy.
- c) List the major tasks in data preprocessing.
- d) Define noise. List any two techniques used for removing noise from the data.
- e) What is decision tree induction?
- f) Define data mart.
- g) Differentiate between small and big data.
- h) What is data cleaning?

PART – B

Answer any **ONE FULL** question from each unit.

(12x4=48)

UNIT – I

2. a) What is the difference between KDD and data mining? Explain. (6)
- b) What are the issues and challenges of data mining? (6)

OR

3. a) Give any two definitions for Data Mining. Differentiate between structured and unstructured data. (6)
- b) Differentiate between DBMS vs. data mining. (6)

UNIT – II

4. a) Explain the data warehousing architecture with a neat diagram. (6)
- b) Write a note on Virtual warehouse. How does it differ from data mart? Explain. (6)

OR

5. a) What is the significance of data integration in data warehousing? Explain any two data integration techniques. (6)
- b) Explain data cube model with an example. (6)

UNIT – III

6. a) How do you implement pattern-growth approach for mining frequent item sets? Explain. (6)
- b) Explain the relationship between the terms support, confidence and minimum support threshold with example. (6)

OR

7. a) Write a note on association rule. (6)
- b) Explain apriori algorithm with the help of an example. (6)

UNIT – IV

8. a) What are the building blocks used in computation of evaluation measures? Explain. (6)
- b) What is rule based classification? How to extract rule from a decision tree? Explain with an example. (6)

OR

9. a) Describe the Decision Tree Induction algorithm. How does it work? Explain. (6)
- b) What is cluster evaluation? What are the major tasks involved in cluster evaluation? (6)

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B.C.A. Semester VI – Degree Examination

April/May - 2025

WEB CONTENT MANAGEMENT SYSTEM

Time: 2½ hrs.

Max Marks: 60

PART – A

Answer any SIX of the following.

(6x2=12)

1. a) Give any four examples for open-source CMS.
- b) Name two scripting languages commonly used for enabling interactivity on dynamic websites.
- c) Mention various forms of textual content found on a webpage.
- d) Give any two examples for static website.
- e) What is the use of POP3 in web hosting?
- f) What is the role of discussion forum?
- g) Define virtual reality.
- h) What is the role of presentation software in the context of WCMS?

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 disadvantages of web content management system. (6)

OR

3. a) Explain the different types of web contents. (6)
- b) Explain any six content development guidelines outlined by "Mick wood" (6)

UNIT – II

4. a) Explain any six types of presentation software that are commonly used in conjunction with WCMS platforms. (6)
- b) Explain any six characteristics of multilingual content development. (6)

OR

5. a) List and explain the benefits of multimedia content. (6)
- b) Why is web hosting important, and explain any five features of web hosting services? (6)

UNIT – III

6. a) Define CSS. Explain the different ways of including CSS to the document. (6)
- b) Mention and explain the key features of static website. (6)

OR

7. a) Explain any six advantages of using wikis. (6)
- b) Mention and explain the different blog sites. (6)

UNIT – IV

8. a) Explain different models of e-publishing with its characteristics. (6)
- b) What is simulation? Explain the types of simulation. (6)

OR

9. a) Explain the key characteristics of virtual reality. (6)
- b) Write the steps involved in adding quiz assessment in Moodle. (6)
