Sixth Semester B.C.A Degree Examinations
AUGUST/SEPTEMBER 2024
(CBCS NEP Scheme)

PAPER NBF 0210: ARTIFICIAL INTELLIGENCE AND APPLICATIONS

Time: 2 hrs

Max. Marks: 60

Instructions to Students:

1. *The Students should legibly write Section number along with question numbers within the margin ONLY.*

2. *The answer without Section number and question numbers will not be valued.*

3. *Draw neat and labelled diagram wherever necessary.*

4. *Section – I multiple Choice Questions should be answered in the first page of main answer book and same questions shall not be answered repeatedly.*

5. *Any identifications like marking, ticking, dots etc., in the options of MCQ (Section – I) on the question paper is strictly prohibited. Do not write anything (except register number) on the question paper.*

SECTION – I

I. *Select the most appropriate answer from the options provided:* 10 ×1 = 10

I - 1) What is Artificial Intelligence?
    a) Putting your intelligence into computer
    b) Programming with your own intelligence
    c) Making a machine intelligence
    d) Playing a game

I - 2) Agents behavior can be best described by _____
    a) Perception   b) Agent function
    c) Sensors and Actuators   d) Environment in which agent is performing

I - 3) The task environment of an agent consists of _____
    a) Sensors   b) Actuators
    c) Performance Measures   d) All of the above

I - 4) Uniform cost search expands the node 'n' with the _____
    a) Lowest path cost   b) Heuristic cost
    c) Highest path cost   d) Average path cost

I - 5) What is state space?

    a) The whole problem

    b) Your definition to a problem

    c) Problem you design

    d) Representing your problem with variable and parameter

I - 6) In AI systems, Knowledge can be represented in two ways. What are these two ways?

    i) Machine logic ii) Predicate Logic iii) Propositional Logic iv) Compound Logic

    a) i. and ii.   b) i. and iii.   c) ii. and iii.   d) iii. and iv.

I - 7) Which is not familiar connectives in first order logic?

    a) and   b) iff   c) or   d) not

I - 8) The different types of machine learning are

    a) surpervised   b) unsupervised   c) reinforcement   d) all of the above

I - 9) The process of breaking an image into parts is called

    a) Smoothing   b) Segmentation   c) Processing   d) breakdown

I - 10) Which of the following is a goal of clustering algorithms?

    a) Searching   b) Sorting

    c) Dimensionality reduction   d) Grouping similar data points together

SECTION – II

II. Answer any FIVE of the following:

$5 \times 3 = 15$

II - 1) Define agent. Write the structure of an AI agent.

II - 2) Write a note on evaluation of AI.

II - 3) What are the steps performed by problem solving agents?

II - 4) Explain the architecture of knowledge based agent.

II - 5) Write a note on support vector machine.

II - 6) Define association and mention its advantages.

II - 7) Explain types of learning in AI.

II - 8) Explain the applications of robotics.

SECTION – III

III. *Answer any THREE of the following:*   3 × 5 = 15

III - 1) Explain the properties of task environment.

III - 2) Explain the well-defined problem with solution and give suitable example.

III - 3) Write a short note on Wumpus world problem.

III - 4) Explain simple hill climbing algorithm

III - 5) Explain the applications of Speech Recognition.

SECTION – IV

IV. *Answer the following:*   2 × 10 = 20

IV - 1) Explain different types of agents in AI.

OR

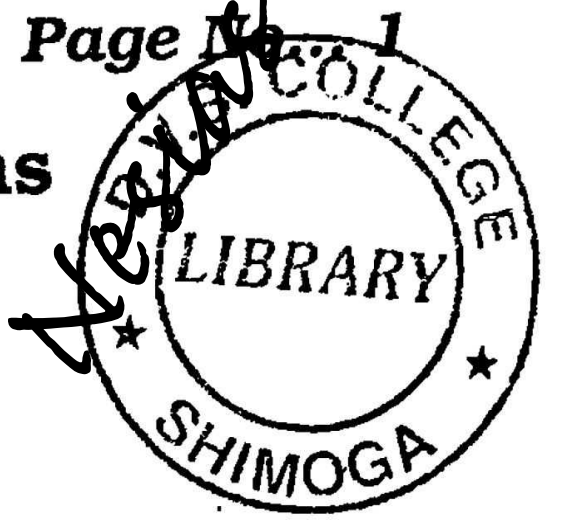Explain the Depth-Limited Search and Depth First Search.

IV - 2) Explain the forward and backward chaining.

OR

i)   Briefly explain clustering in unsupervised learning.

ii) Explain the steps involved in digital image processing technique.   (5 + 5)

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Sixth Semester B.C.A Degree Examinations
AUGUST/SEPTEMBER 2024
(CBCS NEP Scheme)
PAPER: NBF 0220: PHP AND MYSQL

Time: 2 hrs   Max. Marks: 60

Instructions to Students:

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4. *Section – I multiple Choice Questions should be answered in the first page of main answer book and same questions shall not be answered repeatedly.*

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SECTION – I

I. *Select the most appropriate answer from the options provided:*   10 ×1 = 10

   I - 1) Which of the following is a valid PHP variable name?
   a) 1 variable   b) $variable   c) var-iable   d) @variable

   I - 2) What does PHP stand for?
   a) Personal Home Page   b) Private Home Page
   c) Professional Home Page   d) PHP Hypertext Preprocessor

   I - 3) Which of the following is a conditional statement in PHP?
   a) for   b) if   c) while   d) do-while

   I - 4) How do you write comments in PHP?
   a) /* comment */   b) <!-- comment -->   c) // comment   d) Both a and c

   I - 5) Which of the following is not a type of array in PHP?
   a) Indexed   b) Associative
   c) Sequential   d) Multidimensional

   I - 6) Which of the following functions is used to include a file in PHP?
   a) include()   b) require()   c) insert()   d) Both a and b

I - 7) Which function is used to get the length of a string in PHP?

   a) strlen() b) strlength() c) count() d) length()

I - 8) Which of the following is used to create a new class in PHP?

   a) new b) create c) class d) define

I - 9) What is the default port for MySQL?

   a) 80   b) 3306   c) 8080   d) 1433

I - 10) Which PHP function is used to execute a MySQL query?

   a) mysql_query()   b) mysql_execute()
   c) query()   d) execute()

SECTION – II

$5 \times 3 = 15$

II. Answer any FIVE of the following:

II - 1) What are the data types available in PHP? Explain each briefly.

II - 2) Explain the use of the switch statement with an example.

II - 3) How do you create and access an associative array in PHP?

II - 4) Describe the use of user-defined functions in PHP.

II - 5) Explain the use of the include() function with an example.

II - 6) How do you declare and use a class in PHP?

II - 7) Explain the process of handling form data in PHP.

II - 8) How do you connect to a MySQL database using PHP?

SECTION – III

$3 \times 5 = 15$

III. Answer any THREE of the following:

III - 1) Explain the history and features of PHP.

III - 2) Describe the different types of loops in PHP with examples.

III - 3) How do you use date and time functions in PHP? Give examples.

III - 4) What is inheritance in PHP? Explain with an example.

III - 5) How do you execute simple queries and retrieve results using PHP and MySQL?

SECTION – IV

$2 \times 10 = 20$

IV. *Answer the following:*

IV - 1) a) Explain the process of installing and configuring PHP on a web server.

b) Write a PHP script to demonstrate the use of if-else and switch statements $(5 + 5)$

OR

a) Explain the functions in PHP.

b) Write a PHP program to create and invoke user-defined functions, including recursion. $(5 + 5)$

IV - 2) a) Explain the concept of classes and objects in PHP with examples.

b) Write a PHP script to create a class with properties and methods, and demonstrate inheritance. $(5 + 5)$
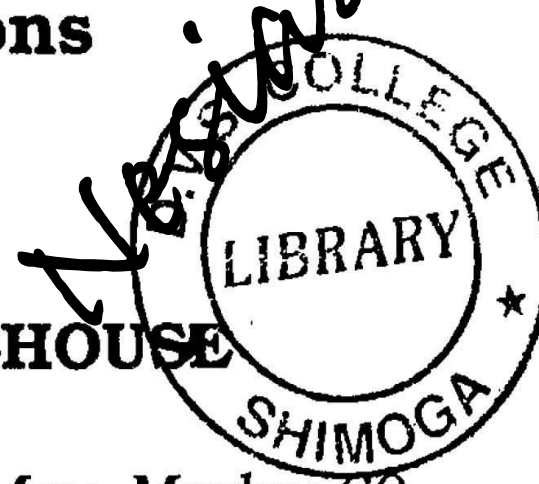
OR

a) Describe the process of handling databases using PHP and MySQL.

b) Write a PHP script to connect to a MySQL database, create a table, insert data, and retrieve data. $(4 + 6)$

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Sixth Semester B.C.A Degree Examinations
AUGUST/SEPTEMBER 2024
(CBCS NEP Scheme)
PAPER: NBF 0230: DATA MINING AND DATA WAREHOUSE

Time: 2 hrs

Max. Marks: 60

Instructions to Students:

1. *The Students should legibly write Section number along with question numbers within the margin ONLY.*

2. *The answer without Section number and question numbers will not be valued.*

3. *Draw neat and labelled diagram wherever necessary.*

4. *Section – I multiple Choice Questions should be answered in the first page of main answer book and same questions shall not be answered repeatedly.*

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SECTION – I

I. *Select the most appropriate answer from the options provided:*   10 ×1 = 10

I - 1) Which of the following is not a basic data mining task?

   a) Classification   b) Prediction   c) Spooling   d) Clustering

I - 2) Which of the following is not an issue in data mining?

   a) High dimensionality   b) Shortage of data

   c) Overfitting   d) Outliers

I - 3) Which of the following statement about knowledge and data discovery management system (KDDMS) is false?

   a) It will provide concurrency features

   b) It will provide recovery features

   c) It will include data mining tools and data management tools

   d) It will include data mining tools but not data management tools

I - 4) Which field of data mining helps in removing uncertainty, noise etc.?

   a) Data preprocessing   b) Data Mining

   c) Outlier detection and removal   d) Uncertainty Reasoning

I - 5) A Snowflake schema is which of the following types of tables?

   a) Fact   b) Dimension

   c) Helper   d) All of the above

I - 6) Which of the following is required by K-means clustering?

    a) Defined distance metric   b) Number of clusters

    c) Initial guesses as to cluster centroids d) All of the above

I - 7) A Star schema has what type of relationship between a dimension and fact table?

    a) Many-to-Many b) One-to-One c) One-to-Many d) All of the above

I - 8) Which of the following techniques is often used to generate the most probable value to fill in the missing value?

    a) Spooling b) Decision tree c) Data cleaning d) Numerosity reduction

I - 9) Which of the following is cluster analysis?

    a) Simple segmentation b) Grouping similar objects

    c) Labeled classification d) Query results grouping

I - 10) An itemset whose support is greater than or equal to a minimum support threshold is _____

    a) Itemset   b) Frequent Itemset

    c) Infrequent Items   d) Threshold values

SECTION – II

II. Answer any FIVE of the following: 5 × 3 = 15

II - 1) List the challenges in Data mining.

II - 2) What are the characteristics of OLAP systems?

II - 3) What is KDD? Explain about data mining as a step in the process of knowledge discovery.

II - 4) Write the differences between Star and Snowflake schema

II - 5) Discuss about basic concepts of frequent item data set mining.

II - 6) What are the different types of Data warehouse models?

II - 7) Write a note on evaluation of clustering.

II - 8) Write any one partitioning based clustering methods.

SECTION – III

III. Answer any THREE of the following: 3 × 5 = 15

III - 1) Discuss the importance of Association Rule Mining.

III - 2) What is Bayes Theorem? Show how it is used for classification.

III - 3) Explain FP-Growth algorithm with example.

III - 4) Explain the operations of data-cube with suitable examples.

III - 5) Define Clustering. Explain types of data in Cluster Analysis.

SECTION – IV

IV. *Answer the following:*

$2 \times 10 = 20$

IV - 1) Explain the Data mining techniques in detail.

OR

Consider the following transaction data-set 'D' shows 9 transactions and list of items using Apriori algorithm frequent-itemset minimum support = 2

Tid	T1	T2	T3	T4	T5	T6	T7	T8	T9
List of Items	I1,I2,I5	I2,I4	I2,I3	I1,I2,I4	I1,I3	I2,I3	I1,I3	I1,I2,I3,I5	I1,I2,I3

IV - 2) a) Explain accuracy-precision and recall in classification.

b) Write a note on K – nearest neighbour algorithm.

$(5 + 5)$

OR

a) What is hierarchical clustering method? Explain the algorithms for computing distances between clusters.

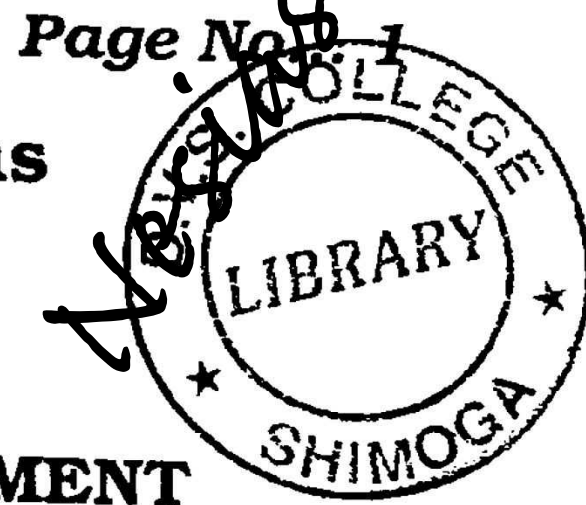b) Explain the two – tier data warehouse architecture with a neat diagram.

$(5 + 5)$

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Sixth Semester B.C.A Degree Examinations
AUGUST/SEPTEMBER 2024
(CBCS NEP Scheme)
PAPER: NBF 0250: MOBILE APPLICATION DEVELOPMENT
(Elective – 2)

Time: 2 hrs

Max. Marks: 60

Instructions to Students:

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SECTION – I

I. *Select the most appropriate answer from the options provided:* $10 \times 1 = 10$

I - 1) Android is _____
   a) a web browser
   b) a web server
   c) an operating system
   d) None of the above

I - 2) An algorithm is a _____ set of precise instructions for performing computation.
   a) Infinite
   b) Finite
   c) Constant
   d) none of the above

I - 3) For which of the following Android is mainly developed?
   a) Laptops
   b) Mobile devices
   c) Desktops
   d) Servers

I - 4) Which of the following virtual machines is used by the Android operating system?
   a) JVM
   b) Dalvik virtual machine
   c) Simple virtual machine
   d) None of the above

I - 5) Android is based on which of the following languages?
   a) Java
   b) C
   c) C++
   d) None of the above

I - 6) APK stands for _____
   a) Android Phone Kit
   b) Android Page Kit
   c) Android Package Kit
   d) None of the above

I - 7) What is an activity in android?

    a) android class

    b) android package

    c) A single screen in an application with supporting java code

    d) None of the above

I - 8) On which of the following, developers can test the application, during developing the android applications?

    a) Physical android phone   b) Emulator included in Android SDK

    c) Third-party emulators   d) All of the above

I - 9) AVD stands for

    a) Android Virtual device   b) Android Virtual display

    c) Active Virtual display   d) Active Virtual device

I - 10) Which of the following is the parent class of Activity?

    a) Context   b) Object   c) contextThemeWrapper   d) None of the above

SECTION – II

II. Answer any FIVE of the following: 5 × 3 = 15

II - 1) Define the following:
(i) SDK   (ii) Intent   (iii) API

II - 2) What are the types of Android applications?

II - 3) Write a short note on Content providers.

II - 4) List any 3 best practices in Android programming.

II - 5) Explain Android services.

II - 6) List various tools for android application development.

II - 7) Write a short note on Layouts in UI.

II - 8) Write a note on preferences in Android.

SECTION – III

III. Answer any THREE of the following: 3 × 5 = 15

III - 1) Explain any 5 SDK features.

III - 2) Explain any 5 Android User Interface Screen elements.

III - 3) Write a note on Web API's.

III - 4) With a diagram, discuss in detail activity life cycle.

III - 5) What are the steps and procedures to publish an android app?

SECTION – IV

IV. *Answer the following:*   2 × 10 = 20

IV - 1) Explain Android development framework. List the steps for developing an Android application.

OR

a) Write a note on broad casting intent.

b) Explain intent filters in android.   (5 + 5)

IV - 2) Explain the application resource hierarchy.

OR

Explain SQLite. Write steps to create, open and close the database cursors.   (5 + 5)

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Sixth Semester B.C.A Degree Examinations
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PAPER: NBF 0260: WEB CONTENT MANAGEMENT SYSTEM (VOC – I)

Time: 2 hrs

Max. Marks: 60

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SECTION – I

I. *Select the most appropriate answer from the options provided:*   10 ×1 = 10

I - 1) The picture, video, audio etc within a website _____
    a) Multimedia   b) Special Fx
    c) Extras   d) Objects

I - 2) Which of the following is not a example of CMS
    a) Joomla   b) Sigil   c) Wordpress   d) drupal

I - 3) Web hosting service where more than one web site is hosted on the same server
    a) VPS hosting   b) Dedicated hosting   c) Shared hosting   d) Windows hosting

I - 4) Web hosting based on type of servers are
    a) Dedicated hosting shared hosting VPS hosting
    b) Server web server web master
    c) Web hosting mail hosting
    d) All of the above

I - 5) A website that let anyone add, edit or delete pages of content is called a
    a) Social network   b) Wiki   c) Usenet   d) All of the above

I - 6) Which of the following is not used to generate dynamic web pages?
    a) JSP   b) PHP   c) ASP.NET   d) None of the above

I - 7) Which of the following is not a E-publication tool

     a) Google docs   b) Sigil   c) Caliber   d) Loom

I - 8) Moodle, an acronym for

     a) Modular object – oriented dynamic learning environment

     b) Mode object open dynamic lean environment

     c) Modular object oriented demonstrated lean environment

     d) Mode object open dynamic learning enviornment

I - 9) Types of assessments in Moodle

     a) Quiz   b) Forum   c) Assignment   d) All of the above

I - 10) Benefits of Joomla

     a) Content management   b) SEO   c) Multilingualism   d) All of the above

SECTION – II

II. Answer any FIVE of the following: 5 × 3 = 15

II - 1) Explain about audio production and editing.

II - 2) What are the steps involved in Managing multimedia content?

II - 3) Differentiate static web page and dynamic web page.

II - 4) What are the advantages and disadvantages of E-publication?

II - 5) Explain website design using CSS.

II - 6) Explain any 3 E – publication tools.

II - 7) Write a note on creating digital graphics in CMS.

II - 8) Explain any 3 screen casting tools.

SECTION – III

III. Answer any THREE of the following: 3 × 5 = 15

III - 1) Explain the norms and guidelines of content development.

III - 2) Define web hosting. Explain types of web hosting.

III - 3) Write a short note on blog site.

III - 4) Write a note on discussion forum.

III - 5) Explain types of e – publication.

SECTION – IV

IV. *Answer the following:*

2 × 10 = 20

IV - 1) a) Explain the different content types and formats in WCMS.

b) Explain any 5 drawbacks of WCMS.

(5 + 5)

OR

a) Write a short note on presentation software.

b) Explain screen casting techniques.

(5 + 5)

IV - 2) a) What are the steps involved in planning and developing dynamic web content sites.

(5 + 5)

b) Explain how wiki site are created.

OR

a) Explain any 5 key areas where simulation and virtual reality are used.

(5 + 5)

b) Write a note on create and add assessment.

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