Machine Learning paper Not Available.

Paper / Subject Code: 90930 / Information Tech.: Robotic Process Automation

(Time: $2\frac{1}{2}$ hours)

[Total Marks: 60]

N. B.: (1) **All** questions are **compulsory**.
(2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
(3) Answers to the **same question** must be **written together**.
(4) Numbers to the **right** indicate **marks**.
(5) Draw **neat labeled diagrams** wherever **necessary**.
(6) Use of **Non-programmable** calculator is **allowed**.

1. Attempt *any two* of the following: **12**

a. Define RPA and list its benefits.
b. What are the components of RPA?
c. What are the projects supported by UIPath Studio?
d. Explain the four types of Task Recorders available in UIPath Studio.

2. Attempt *any two* of the following: **12**

a. Explain the various control flow activities which are examples of loops.
b. Draw a step-by-step example to implement sequence and control flow.
c. Write a short note on Clipboard management.
d. List down the steps to create a data table and writing all its data to an Excel file.

3. Attempt *any two* of the following: **12**

a. What are the various techniques for waiting for a control in RPA? Enumerate its steps.
b. Write notes on Handling Events using UIPath.
c. How to perform Mail Plugin in UIPath?
d. What are the various methodologies that are extensively used for web integration in UIPath?

4. Attempt *any two* of the following: **12**

a. What are assistant bots? How can I use it for a notepad application?
b. What are the steps involved in monitoring a copying event and blocking it?
c. List the various debugging techniques provided by UIPath to check if the workflow is running successfully or to find errors and rectify them.
d. Write short note on collecting crash dumps in UIPath

5. Attempt *any two* of the following: **12**

a. Write a short note on State Machine in UIPath.
b. List down the steps for delete, secure or request credentials once the credentials are set in UIPath.
c. Write short note on Queues in Deploying and maintaining a bot using UIPath.
d. Write short note on License Management in UIPath.

Paper / Subject Code: 90911 / Information Tech.: Applied Artificial Intelligenece (R-2020)

(Time: $2\frac{1}{2}$ hours)

[Total Marks: 60]

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(3) Answers to the **same question** must be **written together**.
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1. Attempt *any two* of the following: **12**

a. What is expert system? Explain the architecture of expert system in detail.
b. What is blackboard system? Explain the architecture of blackboard system in detail.
c. Explain Truth Maintenance System in detail.
d. Explain application areas of expert system in detail.

2. Attempt *any two* of the following: **12**

a. What is Bayes' Theorem? Explain it with example.
b. Explain the concept of cumulative probability. Explain OR-combination with the help of example.
c. Given U = {1,2,3,4,5,6,7,8,9}, A= {(2,0.6), (3,1), (6,0.5), (8,0.2)} and B= {(3,0.6), (7,0.2), (8,0.4)}, determine complement of A, intersection of A and B.
d. What is membership function of fuzzy set? Explain different types of membership functions of fuzzy sets with diagram and mathematical function.

3. Attempt *any two* of the following: **12**

a. Discuss various basic learning methods in detail.
b. What is clustering? Explain different types of clustering methods in detail.
c. Explain Single-layer and multi-layer feed-forward network.
d. Explain design issues of Artificial Neural Networks.

4. Attempt *any two* of the following: **12**

a. Explain the pseudo code for Basic Genetic Algorithm.
b. Explain the concept of Swarm Intelligence. Explain the following Swarm Intelligence algorithms in detail.
   i. Ant Colony Optimization
   ii. Particle Swarm Optimization
c. What is Intelligent Agent? Differentiate between Single-Agent and Multi-Agent system.
d. Explain working cycle of intelligent agent.

5. Attempt *any two* of the following: **12**

a. What is Conceptual Dependency theory? Explain various conceptual primitive actions with the help of the examples.
b. Develop Conceptual Dependency (CD) representations for the following sentences.
   i. John took the book
   ii. John took the book from Mary.
   iii. John ate the ice-cream with a spoon
c. What is parsing in Natural Language Processing? Explain top-down and bottom-up parsing in detail with examples.
d. Explain link parser and chart parser in detail.

(Time: $2\frac{1}{2}$ hours)

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(3) Answers to the **same question** must be **written together**.
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(6) Use of **Non-programmable** calculator is **allowed**.

1. Attempt *any two* of the following: **12**

a. What is the importance of technical communication? List the various factors that makes communications better
b. What is an obligation for an employee to the employer? What are those obligations?
c. How will one choose the application, design and delivery method of communication? What are the critical decisions that are needed before the choice is made?
d. Describe with an example the process of making agenda for meetings

2. Attempt *any two* of the following: **12**

a. What are the kinds of information to be presented while presenting the relationship between organizational patterns?
b. Explain with an example the three important guidelines for organizing information chronologically.
c. You are researching portable GPS systems for use in your company's existing fleet of 35 delivery vans. You are considering such factors as ease of use, size of screen, number of points of interest, and Bluetooth compatibility. You conclude that the three leading models are quite similar in all but one way: price. One model costs about 30 percent less than the other two models. In organizing your discussion of the three models, should you use the whole-by-whole pattern or the part-by-part pattern? Why? Justify.
d. List the guidelines for organizing information by Problem-Method-Solution

3. Attempt *any two* of the following: **12**

a. Describe the benefits of using graphics instead of text
b. Explain the process of Planning and Producing graphics while creating graphics
c. Compare the closed and open system flowcharts

[Turn over ....

d. Majors

	2012	2013	2014
Civil Engineering	236	231	253
Chemical Engineering	126	134	142
Comparative Literature	97	86	74
Electrical Engineering	317	326	401
English	714	623	592
Fine Arts	112	96	72
Foreign Languages	608	584	566
Materials Engineering	213	227	241
Mechanical Engineering	196	203	201
Other	46	42	51
Philosophy	211	142	151
Religion	86	91	72

Make a pie chart and bar chart and explain the effects.

4. Attempt *any two* of the following: 12

a. What is a progress report? Write a progress report of your project work

b. Write a proposal for a new research project on "Data Analysis of high performing educational institutions in Maharashtra State"

c. What is an incident report? Give an example

d. If you are the general secretary of student council of your college, how will be prepare minutes of meeting of the first meeting of the council?

5. Attempt *any two* of the following: 12

a. What are the ways of acquiring external technology?

b. Describe the type of R&D activities that can influence the profit contribution

c. Explain the product development process in the software industry

d. Explain the benefits of using portfolio selection model