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V Semester B.C.A. Degree Examination, February/March - 2024

COMPUTER SCIENCE**Artificial Intelligence (Theory)****(NEP Scheme 2021)****Time : 2½ Hours****Maximum Marks : 60****Instructions to Candidates:**

Answer all sections.

PART - AAnswer any **Four** each carries 2 marks.**(4×2=8)**

1. Define artificial intelligence.
2. What is machine learning.
3. What is knowledge in AI?
4. Define TMS.
5. Write any two applications of computer vision.
6. What is expert system?

PART - BAnswer any **Four** each carries 5 marks.**(4×5=20)**

7. Write an algorithm for BFS.
8. With a neat diagram define the wumpus world AI problem.
9. Explain block world problem with a neat diagram and action words.
10. What is NLP? Explain different types of ambiguity in NLP.
11. Explain different type of ML.
12. Write a note on ANN.

[P.T.O.]



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V Semester B.C.A. Degree Examination, February/March - 2024

COMPUTER SCIENCE**Quantitative Techniques (Theory)**

(NEP Scheme 2021)

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:**Answer All the sections.****SECTION - A****I. Answer any Four questions.****(4×2=8)**

1. Find the HCF of 513, 1134 and 1215 by division method.
2. A train travels for 6 hours at 90 km/h find the distance.
3. From a point P on a level ground, the angle of elevation of the top tower is 60°. If the tower is 180 m high, find the distance of point P from the foot of the tower?
4. Define qualitative and quantitative data.
5. Name the four basic requirements of teaching.
6. What is research ethics?

SECTION - B**II. Answer any Four questions.****(4×5=20)**

7. The cost of 4 bags and 3 boxes is Rs. 555 and the cost of 3 bags and 4 boxes is Rs. 460. What is the cost of one bag?
8. Find the cube root of 571787.
9. The banker's gain on a bill due in 4 months discounted to 15% is Rs. 720. Find TD, BD and face value of bill.
10. If 4 men and 6 women can complete it in 10 days. In how many days will 10 women complete it?
11. Explain the factors affecting the teaching.
12. Write a note on evaluation system.

[P.T.O.]



SECTION - C

III. Write any **Four** questions.

(4×8=32)

13. a) If $8^{x+2y} = 512$ and $3^{3x+2y} = 9^6$ then what is the value of x and y.
b) Three years ago, the age of father was 7 times that of his son. Three years hence the father's age would be four times that of his son. What are the present ages of father and his son.
14. a) A person travels from a place P to Q at the speed of 40 km/h and return at a speed of 10 km/h. What is the average speed of the person for the whole journey.
b) Draw a pie chart for the following data.

Item of expenditure	Amount spent (in rupees)
Food	3750
Health	1875
Clothing	1875
Education	1200

15. a) Draw the bar graphs for the population of two states over the years given below

Year	Population in lakhs	
	A	B
2001	48	50
2002	58	63
2003	60	60
2004	65	45
2005	49	70
2006	68	80
2007	80	100

- b) The top of a 25 meter high tower makes an angle of elevation of 45 degree with the bottom of an electric pole and angle of elevation of 30 degree with the top of pole. Find the height of the electric pole.
16. a) Find the difference between simple and compound interest on Rs. 3,000 in 3 years at 4% p.a.
b) The ratio of the students in arts, science and commerce faculties is 5:4:3. If the number of students in science faculty is 236. Find the number of students in Arts and commerce faculties.
17. a) Explain the types of teaching aid. How it plays a major role in effective teaching.
b) Briefly explain the different types of research.
18. a) Briefly explain the types of communication.
b) Write a note on
i. Seminar.
ii. Workshop.
iii. Symporium.
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V Semester B.C.A. Degree Examination, February/March - 2024

COMPUTER SCIENCE

Cyber Crime, Cyber Law and Intellectual Property Rights

(NEP Scheme)

Paper : SEC-III

Time : 2½ Hours

Maximum Marks :60

Instructions to Candidates:

Answer All Parts.

PART -A

I. Answer any FOUR Questions . Each question carries 2 marks.

(4×2=8)

1. Define cyber crime and cyber criminal.
2. What is Data Theft?
3. Define Phishing and Vishing.
4. Define Hackers.
5. Write any 2 password Policies.
6. What is copyright and Patent?

PART -B

II. Answer any FOUR questions. Each question carries 5 marks.

(4×5=20)

7. Write the steps of filing a Cyber complaint.
8. Write the checklist for Security settings for Social Media.
9. Explain the important methods of Identifying Phishing E-mails
10. Write the different tools available for Cyber security.
11. Write a short note on IPR.
12. Explain the method of installation and configuration of Anti-virus.

[P.T.O.]



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PART - C

III. Answer any Four questions. Each question Carries 8 marks.

(4×8=32)

13. Write and explain the different types of Cyber Crimes (Any 4)
 14. Explain various data protection laws in India.
 15. Write the different Cyber related cases in India. with Examples.
 16. Write the different methods of Security settings that can be set on mobile wallets and UPI's
 17. Explain various sections of IT.Act.
 18. Define GI, Explain the various indicators available in GI.
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V Semester B.C.A. Degree Examination, February/March - 2024

COMPUTER SCIENCE

Data Mining

(NEP Scheme 2021)

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Answer all parts.

PART - A**I.** Answer the **FOUR** questions. Each question carries **Two** marks. (4×2=8)

1. Define data mining.
2. What is prediction?
3. What is Regression?
4. Define outliers.
5. What is parallel algorithm?
6. What is spanning tree?

PART - B**II.** Answer any **FOUR** questions. Each question carries **Five** marks. (4×5=20)

7. Compare data mining and knowledge discovery in databases.
8. Discuss the data mining issues.
9. Explain K-nearest algorithm with example.
10. Explain any one of the decision tree algorithms with example.
11. Explain outlier in detail with examples.
12. Explain Apriori algorithm with examples.

[P.T.O.]

**PART - C**

III. Answer any **FOUR** questions. Each question carries **Eight** marks.

(4×8=32)

13. Explain data mining from a database perspective.
 14. Explain CART in detail.
 15. Explain K-means clustering algorithm with examples.
 16. What is hierarchical clustering? Explain in detail and give example.
 17. What is large item - sets? Explain in detail.
 18. Write a note on data parallelism.
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V Semester B.C.A. Degree Examination, February/March - 2024

COMPUTER SCIENCE

Web Programming (Theory)

(NEP Scheme 2021)

Paper : CA-C23T

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Answer all sections.

SECTION - AAnswer any **Four** questions. Each question carries 2 marks.

(4×2=8)

1. Define web Browser.
2. What is MIME?
3. List any two mouse events.
4. Define XML.
5. Write the basic structure of PHP.
6. Write the syntax of for each loop.

SECTION - BAnswer any **Four** questions. Each questions carries 5 marks.

(4×5=20)

7. Explain Navigator object.
8. Write the difference between print and echo commands.
9. Write a simple program in PHP for generating fibonacci series.
10. Write a note on operators in PHP.
11. Explain the date () function in PHP with an example.
12. What is cookie? How to create cookies in PHP?

[P.T.O.]



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SECTION - C

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Write any **Four** questions. Each question carries **8** marks.

(4×8=32)

13. What are the different ways of accessing elements in Javascript. Explain with an example.
 14. Explain the properties and methods used for DOM tree traversal and modification.
 15. Briefly explain XML namespace.
 16. Explain loop statements in PHP with examples.
 17. What are the types of arrays in PHP? Explain.
 18. Explain exception handling in PHP with an example.
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V Semester B.C.A. Degree Examination, February/March - 2024

COMPUTER SCIENCE

Data Analytics (Theory)

(NEP 2021 Scheme)

Paper : CA-C22T

Time : 2½ Hours

Maximum Marks : 60

Instructions to Candidates:

Answer All Parts.

PART - A

Answer any **Four** questions. Each question carries 2 marks.

(4×2=8)

1. What is predictive analytics?
2. Give the classification data with an example.
3. What is the sample space in probability?
4. What is Z-test in hypothesis testing?
5. Why should we use power BI?
6. What is multivariate analysis?

PART - B

Answer any **Four** questions. Each questions carries 5 marks.

(4×5=20)

7. Explain modern data analytics tools in details.
8. Differentiate between predictive analytics and prescriptive analytics.
9. Explain hypothesis testing in detail.
10. Prove Baye's theorem.
11. Describe the components of microsoft's power BI.
12. Write a note on applications of analytics.

[P.T.O.]

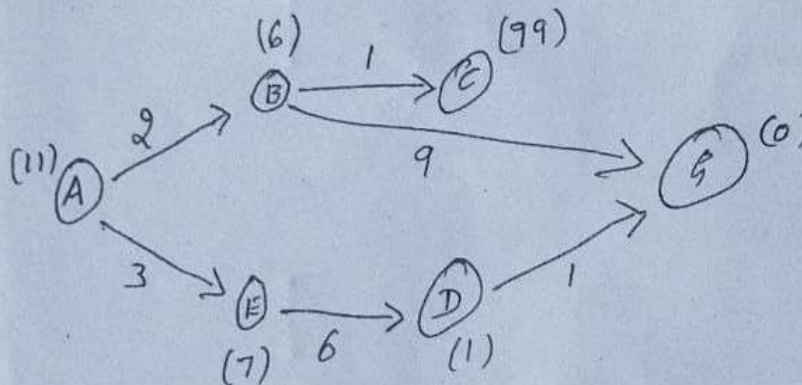


PART - C

Write any **Four** questions. Each carry **8** marks.

(4×8=32)

13. List and explain any 7 applications of AI.
14. Using A* algorithm find the optimal path for the following graph. 'A' is the starting node and 'G' is the goal node.



15. Write a note on predictive logic and first order logic.
16. Write a note on :
- a. Fuzzy logic.
 - b. Types of Robots.
17. Briefly explain five phases of NLP.
18. Explain the architecture of expert system.
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**PART - C**

Write any **Four** questions. Each question carries **8** marks.

(4×8=32)

13. Explain the various phases of data analytics life cycle. (8)
 14. a. Explain in detail about descriptive analytics. (4+4)
b. Write a note on text analytics and web analytics.
 15. Explain types of correlation coefficient with an example. (8)
 16. Explain the data visualization techniques with an example in details. (8)
 17. Demonstrate prepare the data for visualization with any one illustration? (8)
 18. Write a case study on COVID - 19 business scenarios with an example. (8)
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