No. of Printed Pages : **2**

21BCA5E1BI1

Sl. No.

B.C.A. V Semester Degree Examination, Sept./Oct. - 2024

COMPUTER SCIENCE

DSE 1 : Business Intelligence

(NEP)

Time : 2 Hours Maximum Marks : 60

I. Answer **all** the following questions. **10x1=10**

1. (a) Define BI framework.

(b) What is Big Data ?

(c) Give example for DSS.

(d) Write the meaning for knowledge base.

(e) Define Artificial neuron.

(f) What is speech analytics ?

(g) Give the types of mathematical programming optimization.

(h) Expand MCDM.

(i) What is automated decision system ?

(j) Give any two applications of AI.

II. Answer **any four** of the following questions. **4x5=20**

2. Explain the framework of BI.

3. Explain neural networking.

4. Describe the types of DSS.

5. Explain the process of speech analytics.

6. Explain decision analysis with decision tables and decision trees.

7. Write a note on AI.

P.T.O.

III. Answer **any three** of the following questions. **3x10=30**

8. Give a business analytics overview.

9. Explain the phases of decision making process.

10. Write a note on neural network.

11. Explain the mathematical models for decision support.

12. Explain about expert system.

- o 0 o -

No. of Printed Pages : **2**

21BCA5E1CC1

B.C.A. V Semester Degree Examination, Sept./Oct. - 2024

COMPUTER SCIENCE

DSE1 : Cloud Computing

(NEP)

Time : 2 Hours Maximum Marks : 60

SECTION - A

Answer the following sub-questions, each sub-question carries **one** mark. **10x1=10**

1. (a) What is cluster computing ?

(b) Write any two applications of cloud computing.

(c) Expand PaaS and SaaS.

(d) Define Hybrid Cloud.

(e) Expand CRM and ERP.

(f) List out any two management tools of Aneka.

(g) What is the use of Azure cloud ?

(h) Mention any two applications of Media.

(i) What is Virtualization ?

(j) Define VMware.

SECTION - B

Answer **any four** of the following questions, each question carries **five** marks. **4x5=20**

2. Write any five advantages of cloud computing.

3. Write a short note on Platform as a Service (PaaS).

4. Briefly explain about Business and Consumer applications.

5. Write a short note on SQL Azure.

6. Explain Aneka cloud with an example.

7. What are the different types of virtualizations ? Explain any one.

P.T.O.

SECTION - C

Answer **any three** of the following questions, each question carries **ten** marks. **3x10=30**

8. Explain different Trends in cloud computing in detail.

9. With a neat diagram, explain architecture of cloud.

10. Write Pros and Cons of Virtualization.

11. Explain in detail about Microsoft Azure concepts.

12. Write a short note on :
(a) Amazon Web Services
(b) Multiplayer Online Gaming

- o 0 o -

No. of Printed Pages : **2**

21BCA5C13DAL

Sl. No.

B.C.A. V Semester Degree Examination, Sept./Oct. - 2024

COMPUTER SCIENCE

DSC 13 : Design and Analysis of Algorithm

(NEP)

Time : 2 Hours Maximum Marks : 60

SECTION - A

I. Answer **all** the following sub-questions. Each sub-question carries **one** mark. **10x1=10**

1. (a) Define an algorithm.

(b) What is recursive algorithm ?

(c) Write any two characteristics of an algorithm.

(d) What is time complexity ?

(e) What is Knapsack problem ?

(f) Define dynamic programming.

(g) Define Binary Search.

(h) What is Topological Sorting ?

(i) Define Binary Tree traversal.

(j) Name any two Greedy Techniques.

SECTION - B

II. Answer **any four** of the following questions. Each question carries **five** marks. **4x5=20**

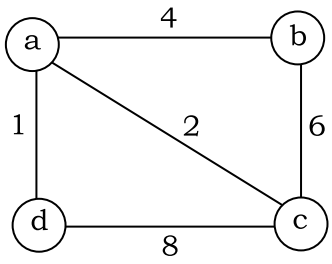
2. Write a note on Asymptotic Notations.

3. Give general plan of mathematical analysis of recursive algorithm with example.

4. Write Quick Sort algorithm with an example.

P.T.O.

5. Apply brute force exhaustive search approach to solve Travelling Salesman Problem (TSP).



6. Explain the characteristics of an algorithm.

7. Explain decision tree with an example.

SECTION - C

III. Answer **any three** of the following questions. Each question carries **ten** marks. **3x10=30**

8. Write a note on Fundamentals of algorithm problem solving.

9. Write and explain BFs algorithm with an example.

10. Apply Greedy technique to solve the following instance of Knapsack problem.
$n=4$, $M=10$, W_1, W_2, W_3, W_4
$=\{7, 3, 4, 5\}$
V_1, V_2, V_3, $V_4=\{42, 12, 40, 25\}$

11. Write and explain Binary Search algorithm with an example.

12. Explain Kruskal's algorithm.

- o 0 o -

No. of Printed Pages : **2**

21BCA5V1

B.C.A. V Semester Degree Examination, Sept./Oct. - 2024

COMPUTER SCIENCE

VOC1 : Digital Marketing

(NEP)

Time : 2 Hours Maximum Marks : 60

SECTION - A

Answer **all** the questions. Each question carries **one** mark. **10x1=10**

1. (a) Define Affiliate Marketing.

(b) Expand SEO and ROI.

(c) Write any two Digital Marketing channels or platforms.

(d) What is Click Through Rate ?

(e) Give two examples for Call To Action (CTA) buttons.

(f) What do you mean by E-mail Automation ?

(g) What is Conversion Rate ?

(h) Give two examples for mobile wallet marketing.

(i) What is Website Traffic ?

(j) Define A/B Testing.

SECTION - B

Answer **any four** questions. Each question carries **five** marks. **4x5=20**

2. Explain Budgeting and Resource allocation for Digital Marketing Strategy.

3. Write about Social Media Analytics and Metrics.

4. Explain creating and optimizing social media profiles.

5. Explain E-mail Segmentation.

6. Write about Location - based Mobile Marketing.

7. Explain importance of Analytics in Digital Marketing.

P.T.O.

SECTION - C

Answer **any three** questions. Each question carries **ten** marks. **3x10=30**

8. Write about various Digital Marketing channels and platforms.

9. Explain importance and benefits of social media marketing.

10. What is Content Marketing ? Explain benefits of it.

11. Write about mobile marketing strategies.

12. Write and explain reporting and data visualization.

- o 0 o -

No. of Printed Pages : **2**

21BCA5C15SEL

Sl. No.

B.C.A. V Semester Degree Examination, Sept./Oct. - 2024

COMPUTER SCIENCE

DSC 15 : Software Engineering

(NEP)

Time : 2 Hours Maximum Marks : 60

SECTION - A

I. Answer **all** the questions. **10x1=10**

1. (a) Define software engineering.

(b) Define Elicitation.

(c) What is functional requirements ?

(d) What is Verification ?

(e) What is Software Modelling ?

(f) Write any two types of UML diagram.

(g) What is system analysis ?

(h) Expand RAD.

(i) Define Testing.

(j) What is alpha testing ?

SECTION - B

II. Answer **any four** questions. **4x5=20**

2. Explain ethics of software engineering.

3. Write a short note on requirement specification.

4. Explain interaction model.

P.T.O.

5. Explain pipeline architecture.

6. Write the difference between Verification and Validation.

7. Write advantages of acceptance testing.

SECTION - C

III. Answer **any three** questions. **3x10=30**

8. Explain Software process model.

9. Write the difference between functional and non-functional requirements.

10. Draw UML diagram for bank transaction.

11. Explain model view controller.

12. Explain types of testing.

- o 0 o -

No. of Printed Pages : **2**

21BCA5C14SPL

Sl. No.

B.C.A. V Semester Degree Examination, Sept./Oct. - 2024

COMPUTER SCIENCE

Statistical Computing & R-Programming

(NEP)

Time : 2 Hours Maximum Marks : 60

SECTION - A

I. Answer **all** the following Sub-questions. Each Sub-question carries **one** mark. **10x1=10**

1. (a) Who developed R-programming ?

(b) Define list.

(c) Mention any 2 functions of reading Data file in R.

(d) What is the use of Stop() & Warning() Exception in R ?

(e) Mention four normal distribution available in R.

(f) What is Student-t distribution ?

(g) What is hypothesis testing ?

(h) Define ANOVA.

(i) Define Regression.

(j) Define Packages.

SECTION - B

II. Answer **any four** of the following. Each question carries **five** marks. **4x5=20**

2. What is data frame ? How to create data frame write with example ?

3. Write a note on While loop and Repeat loop in R.

4. Explain Bernoulli Distribution Pn in detail with example.

5. Explain Two-way ANOVA in R.

6. Explain Specialized text notations.

7. Write a R program to demonstrate operators & control structures in R.

P.T.O.

SECTION - C

III. Answer **any three** questions, each question carries **ten** marks. **3x10=30**

8. Explain matrix operations with an example.

9. Explain Writing Data to Text files & Excel files with an example.

10. Explain R graphics functions plot(), Hist(), Pie(), Boxplot() scatter plot with neat diagram.

11. Write a note on sampling distribution's in R.

12. Write notes on :
(a) Linear Regression
(b) 3D Scatter

- o O o -