

Time:(3 Hours)

marks:80

N.B: 1) Question number 1 is compulsory.

2) Attempt **any three** out of the remaining.

3) Assume suitable data if **necessary** and justify the assumptions.

4) Figures to the **right** indicate full marks.

Q 1

- A Explain how Monotonic read consistency model is different than Read your Write consistency model [5]
- B What is 1:M and M:1 group communication? [5]
- C Differentiate between NOS DOS and Middleware in the design of distributed systems [5]
- D What is fault tolerance? Explain failure models. [5]

Q 2

- A Explain code migration and its techniques. [10]
- B Explain Bully election algorithm with suitable example. [10]

Q 3

- A Explain Raymond's algorithm for mutual exclusion. [10]
- B What are different data centric consistency models [10]

Q 4

- A Explain different load estimation and process transfer policies used by load balancing algorithms. [10]
- B What are physical clocks? Explain any one physical clock synchronization algorithm. [10]

Q 5

- A What are different issues and goals related to distributed systems? [10]
- B Explain file caching schemes [10]

Q 6

- A Write a short note on Replication and the types of it. [10]
- B What is RPC? Explain working of RPC in detail [10]

(3 Hours)

Total Marks: 80

Note:

1. Question No. 1 is compulsory.
2. Attempt any **THREE** out of the remaining **FIVE** questions.
3. Assume suitable data if necessary.

- Q. 1.** Answer **any FOUR** of the following: **(20)**
- (a) What is the scope and importance of HR management?
 - (b) Explain Maslow's Hierarchy of Needs theory.
 - (c) What is a Group? What are its types? Give its advantages and limitations.
 - (d) Write short note on Team Roles with a case study.
 - (e) Discuss on Need, objectives of MIS in HR systems.
- Q. 2.** (a) What is the need of defining Corporate Mission, Vision in an Organization? **(10)**
(b) Differentiate between Training and Development. Discuss on Training methods. **(10)**
- Q. 3.** (a) What are the steps in Organizational Decision making process? **(10)**
(b) Discuss on Leadership Styles. **(10)**
- Q. 4.** (a) What are the steps involved in Recruitment process? **(10)**
(b) What is Cross- Cultural Leaderships? **(10)**
- Q. 5.** (a) Define Organization. Discuss in short about Structure, size, technology and Environment of Organization. **(10)**
(b) Write short notes on Job-enrichment and Employee Morale **(10)**
- Q. 6.** **Attempt the following:-** **(20)**
- (a) How is BPR a tool for Organizational Development? Give a case study.
 - (b) Discuss on Herzberg theory of Motivation.
 - (c) What is the effect of Perception on Individual Decision Making process?
 - (d) What is personality Development? Discuss its types.

Duration: - 3 Hours

Marks: 80 Marks

- N.B. : (1) Question No 1 is Compulsory.
(2) Attempt any three questions out of the remaining five.
(3) All questions carry equal marks.
(4) Assume suitable data, if required and state it clearly.

- Q.1** Solve any four **20 (4x5)**
- a. Explain hyperlink Analytics?
 - b. Specify the significance of Social Media KPI
 - c. Differentiate between static and dynamic social media text.
 - d. Explain the steps needed to formulate a social media strategy.
 - e. Explain The benefits of brand building.
- Q.2**
- a. Explain the two main categories of search engine analytics. **10**
 - b. What is text analytics, and Explain the steps in text analytics with an example. **10**
- Q.3**
- a. Explain briefly the seven layers of social media analytics with examples. **10**
 - b. What is a social media-based recommendation system and how does it differ from a traditional recommendation system? **10**
- Q.4**
- a. What is search engine optimization? What are the different methods to do it? **10**
 - b. What is social media risk? Explain the four steps in social media risk management **10**
- Q.5**
- a. Explain various issues addressed in privacy policy **10**
 - b. What is Location analytics? Explain its significance in context of social media analytics? **10**
- Q.6** Write short notes on any two **20 (2x10)**
- a. Challenges of social media analytics
 - b. Social Media Action analytics
 - c. Types of Social media risk
 - d. Intention analysis in social media.

Time: 3hours

Marks: 80

NB.

- 1) Question number 1 is compulsory
- 2) Attempt any three out of the remaining five questions.
- 3) Assume suitable data if necessary and justify the assumptions.
- 4) Figures to the right indicate full marks

- Q1** Answer the following **20**
- a) Explain the significance of data science considering Volume and Dimensions of Data.
 - b) Explain performance evaluation with respect to Time series forecasting
 - c) Write a note on measure of spread
 - d) Write a note on Applications of Data Science
- Q2** a) Explain Cross Validation, K-fold cross validation in detail **10**
 b) Explain the Data Science Process in detail **10**
- Q3** a) What is Data Visualization? What is Multivariate data? Explain with an example Scatter plot. **10**
 b) What are Outliers and their Causes? Can Statistics be used to detect Outliers if yes, Explain. **10**
- Q4** a) Explain SMOTE in detail **10**
 b) Calculate the Bowley's coefficient of skewness from the following distribution. **10**

| Income | NO. of persons |
|----------|----------------|
| 30 - 40 | 8 |
| 40 - 50 | 24 |
| 50 - 60 | 48 |
| 60 - 70 | 68 |
| 70 - 80 | 30 |
| 80 -90 | 13 |
| 90 - 100 | 9 |

- Q5** a) Explain Smoothing methods in Time Series Forecasting **10**
 b) A stenographer claims that she can type at the rate of 120 words per minute. Can we reject her claim on the basis of 100 trails in which she demonstrates a mean of 116 words with a standard deviation of 15 words? Use 5 % level of significance, $Z_{\alpha} = 1.96$. **10**
- Q6** a) What are Recommendation engines? Explain. **10**
 b) Time series analysis using linear regression **10**
