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SC-257

Total No. of Pages : 3

MCA (COMM.) (Part - I) (Semester - I) (CBCS)
Examination, January-2025
Computer Architecture and Operating System
Sub. Code : 81139

Day and Date : Tuesday, 21/01/2025

Total Marks : 70

Time : 10:30 a.m. to 01:30 p.m.

- Instructions :**
- 1) Q. No 1 and Q. 7 are compulsory.
 - 2) Solve any three from Q. 2 to Q. 6.
 - 3) Figures to the right indicates full marks.

Q1) Choose correct alternative for the following.

[8]

- 1) The fragmentation in Fixed partition system is called as _____
A) External Fragmentation B) Internal Fragmentation
C) Holes D) None of these
- 2) The number of processes completed per unit time is known as _____
A) Output B) Throughput
C) Efficiency D) Capacity
- 3) The Latest version of Android is _____
A) Android 13 B) Android 12
C) Android 14 D) None of these
- 4) Which of the following are the standard problems of Synchronization?
A) Producer Consumer Problem B) Readers Writers Problem
C) Dining Philosopher Problem D) All of these

- 5) Default Value of Semaphore, when resource is free is ____
A) -1 B) 1
C) 0 D) All of these
- 6) Which of the following is CPU Scheduling algorithm?
A) Shortest Seek Time First
B) Bankers Algorithm
C) First Come First Serve
D) None of these
- 7) Which of the following errors are handled by O.S.?
A) Lack of Paper in Printer
B) Connection failure in Network
C) Power Failure
D) All of these
- 8) For I/O operation, process present in ____
A) Ready State B) Running state
C) Terminated State D) Block State
- Q2) What is Operating System ? Explain different types of Operating System. [14]
- Q3) A) Explain the concept of Half and Full adder with a neat circuit diagram. [7]
B) What is Process Life Cycle? Explain with a neat diagram. [7]
- Q4) What is Demand Paging? Explain different page replacement algorithm. [14]
- Q5) What is Deadlock? Explain different Deadlock prevention methods. [14]
- Q6) A) Discuss critical section problem and Peterson's Solution in detail. [7]
B) Write looping statements in shell scripting. [7]

Q7) Write short notes on the following. (Any four)

- A) External Fragmentation
- B) Semaphore
- C) Multiplexer
- D) Segmentation
- E) Bankers Algorithm

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Total No. of Pages : 3

MCA (Part - I) (Semester - I)
Examination,
Knowledge Management
Sub. Code : 81170

Day and Date : Monday, 27/01/2025

Time : 10:30 a.m. to 01:30 p.m.

Total Marks : 70

- Instructions : i) Question 1 and Question 7 are compulsory.
ii) Attempt any three questions from Question 2 to Question 6.

Q.1) Choose correct alternative for the following questions.

[8]

- 1) Which one is the organization Back Bone?
A) Capital B) Employee
C) Management D) Information
- 2) Data is _____.
A) Facts & Figure B) Information
C) Processed Data D) Knowledge filtering
- 3) Following are the components of KMS except _____.
A) People B) Currency
C) Process D) Technology
- 4) Knowledge Extraction is the creation of knowledge from _____ sources.
A) Structured B) Untrusted
C) Both A) and B) options D) Database
- 5) The Conversion of Tacit Knowledge to explicit knowledge is _____.
A) Socialization B) Externalization
C) Combination D) Internalization

- 6) The major goal of KM is to _____
- A) Convert all tacit knowledge into explicit knowledge.
 - B) Promote knowledge reuse and organizational innovation.
 - C) Ensure that all knowledge resides within the organization and not within the knowledge workers of that organization.
 - D) Formalize content management procedures in order to fully standardize within the organization.
- 7) Knowledge available with human being/employee is _____
- A) Tacit
 - B) Explicit
 - C) Potential
 - D) None of these
- 8) The _____ layer of the KM system creates a competitive edge for the learning organization.
- A) Knowledge-enabling application
 - B) Middleware
 - C) Transport
 - D) Authorized access

Q2) A) What do you mean by knowledge management? Explain the phases in KM. [7]

B) What is information technology? How it is related to knowledge management? [7]

Q3) A) Explain various components of knowledge management strategy. [7]

B) Explain various knowledge mapping techniques. [7]

Q4) A) What is learning organization? Explain it in detail. [7]

B) Explain Knowledge management evolution. [7]

Q5) What is KM strategy? Design KM strategy for health department. [14]

Q6) Discuss the role of internet and telecommunication systems in knowledge management.

Q7) Write short notes on. (Any four)

[20]

- A) Knowledge pyramid
- B) Information mapping
- C) Knowledge management in the developing countries
- D) Issues in knowledge management
- E) Decision support system

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MCA (Commerce and Management) (Par - I) (Semester - I)

Examination, January-2025

Paper CC102 : RDBMS

Sub. Code : 81140

Day and Date : Wednesday, 22/01/2025

Total Marks : 70

Time : 10:30 a.m. to 01:30 p.m.

Instructions : 1) Questions No. 1 and Question No. 7 are compulsory.

2) Solve any three questions from questions from Q. No.2 to Q. No.6.

3) Figures to the right indicate full Marks.

Q1) Choose the correct alternative for following.

1) Which of the following creates a virtual relation for storing the query? [8]

A) Function B) View

C) Procedure D) None

2) Referential integrity is directly related to _____

A) Relation key B) Foreign key

C) Primary key D) Candidate key

3) E-R Modelling technique is _____

A) Tree Structure B) Top-down method

C) Bottom-up method D) Right-left approach

4) What type of join is needed when you wish to include rows that do not have matching values?

A) Equi-join B) Natural join

C) Outer join D) All of these

- 5) Which one of the following sorts rows in SQL?
 A) SORT BY B) ORDER BY
 C) GROUP BY D) None of these
- 6) Which of the following is NOT an Oracle-supported trigger?
 A) BEFORE B) DURING
 C) AFTER D) INSTEAD OF
- 7) A table can be logically connected to another table by defining a.....
 A) Super key B) Candidate key
 C) Primary key D) Unique key
- 8) A stored procedure in SQL is a ____
 A) Block of functions
 B) Group of Transact-SQL statements compiled into a single execution plan.
 C) Group of distinct SQL Statements.
 D) None of the mentioned
- Q2) A) Explain Architectures of RDBMS with labelled diagram. [7]
 B) State and explain ACID properties of transaction. [7]
- Q3) A) Explain different types of SQL constraints. [7]
 B) What is a join ? Discuss about various joins used in SQL. [7]
- Q4) A) Explain Order by, Group by and Having Clauses with an example. [7]
 B) Explain while loop in PL/SQL. Write PL/SQL program to display factorial of any number. [7]
- Q5) What is trigger? Explain different types of triggers with suitable example. [14]
- Q6) What is Normalization? Explain different types of Normalization. [14]

Q7) Write short notes on. (Any four)

[20]

- A) CODD's Rule
- B) Relational Data Models
- C) Views
- D) Stored procedure
- E) Data Types in PL/SQL
- f) Function in PL/SQL

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Total No. of Pages : 2

MCA (Part - I) (Semester - I) (Comm.) (CBCS)
Examination, January-2025
Principles of Management and Organizational Behaviour
Sub. Code : 81142

Day and Date : Friday, 24/01/2025

Time : 10:30 a.m. to 01:30 p.m.

Total Marks : 70

- Instructions : 1) Question No 1 and 7 are compulsory.
2) Attempt any three questions from question no. 2 to 6.
3) Figures to the right indicates full marks.

Q.1) Choose correct alternative for following question from option given below. [8]

- 1) What is the concern with forecasting requirement of human resources with different level of skills?
A) System
B) Productivity
C) Contingency
D) Human Resource Planning
- 2) _____ is process of searching prospective employee and stimulating them to apply for job.
A) Recruitment
B) Selection
C) HRP
D) Job analysis
- 3) _____ is deciding in advance what should be done in future.
A) Planning
B) Organizing
C) Directing
D) Controlling
- 4) Management by objectives (MBO) was first popularized by _____.
A) Henry Fayol
B) Peter Drucker
C) George S. Odiorne
D) Mary Parker

- 5) Managing change is an integral part of _____
 A) Top management job B) Middle level management job
 C) The first line manager job D) Every manager's job
- 6) Who put the theory of motivation popularly called the need hierarchy theory ?
 A) Herzberg B) A.H. Maslow
 C) Elderfer D) McClelland
- 7) Which factor determines physical features of individual personality?
 A) Physical Factor B) Social Factor
 C) Heredity Factor D) Cultural Factor
- 8) A technique to bring a change in entire organization is _____
 A) Organization development B) Organization change
 C) Organization culture D) Organizational conflict

Q2) Define organizational behavior. Describe different disciplines contributing to OB. [14]

Q3) Describe sources of resistance to change. [14]

Q4) What do you mean by leadership? Elucidate various leadership styles. [14]

Q5) Write various types of planning. Briefly describe steps in planning process. [14]

Q6) Comment on Herzberg's two-factor theory of motivation and McGregor's Theory 'X' and Theory 'Y'. [14]

Q7) Write short notes on the following (Any four) [20]

- 1) Types of organization structure
- 2) Management by objective
- 3) Importance of controlling
- 4) Types of group
- 5) Determinants of personality

- 5) Managing change is an integral part of _____
 A) Top management job B) Middle level management job
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- 6) Who put the theory of motivation popularly called the need hierarchy theory ?
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- 1) Types of organization structure
- 2) Management by objective
- 3) Importance of controlling
- 4) Types of group
- 5) Determinants of personality

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MCA (COMMERCE) (Part - I) (Semester - I) (CBCS)

Examination, ????-2025

STATISTICAL AND MATHEMATICAL FOUNDATIONS

Sub. Code : 81141

Day and Date : Thursday, 23/01/2025

Time : 10:30 a.m. to 01:30 p.m.

Total Marks : 70

- Instructions :
- 1) Question number 1 and Question number 7 are compulsory.
 - 2) Attempt any three questions from question number 2 to question number 6.
 - 3) Figures to the right indicate full marks.
 - 4) Use of non-programmable calculator is allowed.

Q1) Choose the correct alternative for each of the following. [8]

- 1) The value of the coefficient of correlation lies between _____.
A) -1 and 0 B) -1 and 1
C) 0 and 1 D) None of these
- 2) The shape of normal curves is _____.
A) bell shaped B) flat
C) circular D) None of these
- 3) The standard deviation of one distribution divided by the mean of the distribution and expressing it in percentage is called _____.
A) Coefficient of standard deviation
B) Coefficient of skewness
C) Coefficient of quartile deviation
D) Coefficient of variation

- 4) If there are two variables, then there can be at most _____ number of regression lines.

A) One B) Two
C) Three D) Infinity

- 5) Consider the following two statements.

Statement 1 : Both LDA and PCA are linear transformation techniques.

Statement 2 : LDA is supervised whereas PCA is unsupervised.
Then _____.

A) Statement 1) is true and statement 2) is false
B) Statement 1) is false and statement 2) is true
C) Both statements 1) and 2) are true
D) Both statements 1) and 2) are false

- 6) An argument of the form _____ is called Modus Ponens.

A) $p \rightarrow q$ B) p C) $p \vee q$ D) $p \rightarrow q$
 $\therefore q$ $\therefore p \wedge q$ $\sim p$ $q \rightarrow r$
 $\therefore q$ $\therefore q$ $\therefore p \rightarrow r$

- 7) A graph with parallel edges but having no loop is called _____.

A) a multigraph B) a simple graph
C) pseudograph D) None of these

- 8) A conditional of two statements p and q is symbolized like _____.

A) $p \vee q$ B) $p \rightarrow q$
C) $p \wedge q$ D) $p \leftrightarrow q$

- Q2) A) Define Standard Deviation and Coefficient of Variation. Calculate S.D. [7]
and coefficient of variation of the marks obtained by 10 students in a test.

Marks : 8, 9, 15, 23, 5, 11, 19, 8, 10, 12.

- B) Define : i) Disjunction of two statements, ii) Conjunction of two statements. Prepare truth table for $(p \vee q) \wedge \sim (p \wedge q)$. [7]

Q3) A) Define IQR. Construct a box plot to represent the data given below. [7]

14, 20, 8, 17, 24, 10, 12, 30, 35, 40, 10.

B) Define adjacency matrix of a graph G. Draw the undirected graph represented by adjacency matrix. [7]

$$M(G) = \begin{matrix} & \begin{matrix} V_1 & V_2 & V_3 & V_4 \end{matrix} \\ \begin{matrix} V_1 \\ V_2 \\ V_3 \\ V_4 \end{matrix} & \begin{bmatrix} 1 & 1 & 2 & 0 \\ 1 & 2 & 1 & 3 \\ 2 & 1 & 0 & 1 \\ 0 & 3 & 1 & 0 \end{bmatrix} \end{matrix}$$

Q4) A) The average number of misprint per page of a book is 1.5. Assuming the distribution of number of misprint to be Poisson. Find : [7]

- the probability that a particular book is free from misprints.
- number of pages containing more than one misprint if book contains 900 pages.

B) Calculate the coefficient of correlation between X and Y from the following data. [7]

X	3	5	4	6	2
Y	3	4	5	2	6

Q5) A) Define Converse, Inverse and Contra positive of conditional statement $p \rightarrow q$. Write the converse and inverse of the following statement. [7]

'If today is New Year's Eve, then tomorrow is January.'

B) State the equations of regression lines. For two variables X and Y the lines of regression are $6Y = 5X + 90$, $15X = 8Y + 130$ [7]

- Find
- Mean of X and Y.
 - Correlation coefficient between X and Y.

- Q6) A) Calculate the value of rank correlation coefficient from the following data. [7]

Marks in statistics	40	42	45	35	36	39
Marks in Maths	46	43	44	39	40	43

- B) Explain Logistic Regression and Liner Discriminant Analysis. [7]

- Q7) Write short notes on any four of the following. [20]

- 1) Binomial distribution.
- 2) Absolute and relative measures of dispersion.
- 3) Scatter diagram.
- 4) Rules of Inference for Propositional Logic
- 5) Incidence matrix of a graph G.

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Total No. of Pages : 3

MCA (Commerce and Management) (Par - I) (Semester - I)

Examination, January-2025

Paper CC102 : RDBMS

Sub. Code : 81140

Day and Date : Wednesday, 22/01/2025

Time : 10:30 a.m. to 01:30 p.m.

Total Marks : 70

- Instructions :**
- 1) Questions No. 1 and Question No. 7 are compulsory.
 - 2) Solve any three questions from questions from Q. No.2 to Q. No.6.
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Q1) Choose the correct alternative for following.

- 1) Which of the following creates a virtual relation for storing the query? [8]
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- 2) Referential integrity is directly related to ____
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- 4) What type of join is needed when you wish to include rows that do not have matching values?
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- 5) Which one of the following sorts rows in SQL?
A) SORT BY B) ORDER BY
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- 7) A table can be logically connected to another table by defining a.....
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B) State and explain ACID properties of transaction. [7]
- Q3) A) Explain different types of SQL constraints. [7]
B) What is a join ? Discuss about various joins used in SQL. [7]
- Q4) A) Explain Order by, Group by and Having Clauses with an example. [7]
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Q7) Write short notes on. (Any four)

[20]

- A) CODD's Rule
- B) Relational Data Models
- C) Views
- D) Stored procedure
- E) Data Types in PL/SQL
- f) Function in PL/SQL

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Total No. of Pages : 3

MCA (Part - I) (Semester - I) (CBCS)
Examination, January-2025
Introduction to Programming
Sub. Code : 81138

Day and Date : Monday, 20/01/2025

Time : 10:30 a.m. to 01:30 p.m.

Total Marks : 70

Instructions : 1) Question number 1 and Question number 7 are compulsory.
2) Attempt any three questions from question number 2 to question number 6.

Q1) Choose correct alternatives for the following questions from options given below. [8]

- 1) Which character is used in Python to make a single line comment?
A) / B) #
C) // D) !
- 2) Which of the following is not a keyword in Python language?
A) val B) raise
C) try D) with
- 3) Which of the following option is not a core data type in the python language?
A) Dictionary B) Lists
C) Class D) All of these
- 4) Which of the following data types is shown below?
L= [2, 54, 'Python', 5]
What will be the output of this statement?
A) Dictionary B) List
C) Tuple D) Stack

- 5) What is the output of the following code : print 9//2?
A) 4.5 B) 4.0
C) 4 D) Error
- 6) What is the output of the following program?
def myfun(a):
 a = a+10
 a = a*2
 return a
print(myfun(5))
A) 8 B) 16
C) Runtime Error D) Indentation Error
- 7) What is the output of the following code snippet?
a = "hello"
b = "world"
print(a + b)
A) helloworld B) hello world
C) hello\nworld D) Error
- 8) What is the output of the following code snippet?
a=[1, 2, 3, 4]
print(a[-2])
A) 3 B) 2
C) 4 D) Error

Q2) A) Describe characteristics of Programming Languages. [7]

B) Explain break, continue and pass statement in Python. [7]

Q3) A) Illustrate the import statement with an example. [7]

B) Explain Python directory management with an example. [7]

- Q4) A) What is exception? Explain exception with try-except. [7]
B) Explain the anonymous function in Python. [7]

- Q5) A) What is Dictionary? Explain accessing values in Dictionary. [7]
B) Illustrate basic List Operations with an example. [7]

- Q6) What is tkinter? Explain any six widgets from tkinter. [14]

- Q7) Write short notes on any four. [20]

- 1) String
- 2) Built-in Tuple Functions
- 3) For Loop
- 4) OOP Terminology
- 5) Multi-Line Statements