(6 pages) **Reg. No. :** .....

Code No. : 7017 **Sub. Code : PCAM 42**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Fourth Semester

Computer Applications – Core

RDBMS

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. An attribute is a _____ in a relation.

   (a) Row

   (b) Column

   (c) Value

   (d) Tuple

2. Choose the correct statement regarding superkeys

   (a) A superkey is an attribute or a group of multiple attributes that can uniquely identify a tuple

   (b) A superkey is a tuple or a set of multiple tuples that can uniquely identify an attribute

   (c) Every superkey is a candidate key

   (d) A superkey is an attribute or a set of attributes that distinguish the relation from other relations

3. Create view studentdet select ID, address, name from student; What is the result of the above query?

   (a) It creates a view named studentdet with 3 attributes

   (b) It creates a view named student det with 1 attribute

   (c) It creates a view named ID with 2 attributes

   (d) It is syntactically wrong and does not give a result

4. The _____ statement causes the statements to undo all the updates performed on the transaction

   (a) Undo (b) Rollback

   (c) Commit (d) Replace

5. What do double diamonds represent in an ER diagram?

   (a) They link entity sets to relationship sets

   (b) Total participation of an entity in a relationship set

   (c) Relationship sets linked to weak entity sets

   (d) None of the above

6. If an index entry appears for every search key value in the file, it is called as

   (a) Dense key (b) Dense index

   (c) Sparse key (d) Sparse index

7. Which of the following information does an SQL DDL not specify?

   (a) The schema for each relation

   (b) The integrity constraints

   (c) The operations on the tuples

   (d) The security information for relation

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 above

9. What is unique role assumption?

(a) The attribute name has a unique meaning in the database

(b) The attribute are all unique

(c) No two tuples have even a single same value in a relation

(d) None of the above

10. The ———————— command displays all the errors associated with a procedural object

(a) out errors (b) put errors

(c) display errors (d) show errors

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Explain the categories of data models.

Or

(b) How transaction management is performed?

12. (a) Explain the SELECT and PROJECT operations in Relational Algebra.

Or

(b) Comment on Relational Commercial Languages such as SQL, QBE and QUEL.

13. (a) How to create INDEX?

Or

(b) Explain the syntax of UPDATE command.

14. (a) Explain the basics behind Large objects.

Or

(b) Illustrate granting privileges to a role with example.

15. (a) Explain the compilation process of procedures, functions and packages.

Or

(b) How to enable and disable triggers?

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Describe the purpose of promoting the development of Database systems.

Or

(b) Explain different mapping constraints in E-R model.

17. (a) Explain Third and Fourth Normal forms in detail.

Or

(b) Discuss the operations performed in Tuple Relational calculus.

18. (a) Give an account on VIEW.

Or

(b) Explain with all constraints, how a table is created.

19. (a) Comment on the structure of an object in PL/SQL.

Or

(b) Explain how to manage user privileges.

20. (a) How to create procedures and functions in PL/SQL?

Or

(b) Discuss Exception handling with suitable examples.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7055 **Sub. Code : ZCAM 11**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

First Semester

Computer Applications – Core

MATHEMATICAL FOUNDATION FOR
COMPUTER SCIENCE

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Find the Eigen values for the following 2×2 matrix.?

$$A=\begin{bmatrix} 1 & 8 \\ 2 & 1 \end{bmatrix}$$

(a) -3 (b) 2

(c) 6 (d) 4

2. The Eigen value is ————————

(a) A vector obtained from the coordinates

(b) A matrix determined from the algebraic equations

(c) A scalar associated with a given linear transformation

(d) It is the inverse of the transform

3. pV q is logically equivalent to ————————

(a) $\neg q \rightarrow \neg p$ (b) $q \rightarrow p$

(c) $\neg p \rightarrow \neg q$ (d) $\neg p \rightarrow q$

4. A predicate is a proposition containing ————————, which is what's dealt with in predicate logic?

(a) Statics (b) Variables

(c) Numbers (d) Logic

5. A relation can be represented using a?

(a) In directed graph (b) Pie graph

(c) Directed graph (d) Line graph

6. The ———————— Relation between sets X and Y is the set X×Y.

(a) Empty (b) Full

(c) Identity (d) Inverse

7. A variable (Random Variable) assuming an infinite number of values is called

(a) Continuous Random Variable

(b) Discrete Random Variable

(c) Absolute Variable

(d) Data

8. Normal Distribution is applied for ————————

(a) Continuous Random Distribution

(b) Discrete Random Variable

(c) Irregular Random Variable

(d) Uncertain Random Variable

9. A spanning tree with the smallest weight in a weighted graph is known as

(a) Shortest spanning graph

(b) Shortest spanning tree

(c) Simple spanning tree

(d) Weighted tree

10. Which one of the following is not a matrix representation in graph?

(a) Adjacency Matrix (b) Circuit Matrix

(c) Incidence Matrix (d) Data Matrix

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Draw the Venn diagram for union and intersection operations.

Or

(b) Elucidate the eigenvectors with example.

12. (a) Write short note on predicate logic.

Or

(b) Describe about the rules of inference with example.

13. (a) Explain the discrete Random variable with example.

Or

(b) Explain the properties of partial order relations.

14. (a) Explain the continuous probability distributions with example.

Or

(b) Explain the binominal distribution with example.

15. (a) Explain the graph isomorphism with example.

Or

(b) Describe about the planer graph with example.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) If A = {10, 20, 33, 44} and B = {44, 55, 66, 77, 10, 20}, then find the union, intersection and set difference of A and B.

Or

(b) Illustrate the Eigen values with example.

17. (a) Construct the truth table for the given statements $pV\neg(p\wedge q)$

Or

(b) Show that $\neg(p\rightarrow q)$ is equivalent to $p\wedge\neg q$

18. (a) How will you represent the relations? Discuss it.

Or

(b) Explain the equivalence relations with example.

19. (a) Explain the following.

(i) Mean (ii) Variance (iii) Co-Variance

Or

(b) Demonstrate the discrete probability distribution with example.

20. (a) Explain the types of graph with example.

Or

(b) Discuss the following

(i) Graphy Isomorphism (ii) Connectivity (iii) Euler Graph

———————

(6 pages) **Reg. No. :** .....

Code No. : 7056 **Sub. Code : ZCAM 12**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022

First Semester

Computer Application – Core

COMPUTER ORGANIZATION AND ARCHITECTURE

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. What kind of operation occurs in a J - K flip flop when both inputs J and K are equal to 1?

   (a) Preset operation

   (b) Reset operation

   (c) Clear operation

   (d) Toggle operation

2. Which of these flip – flops cannot be used to construct a serial shift register?

(a) D – flip flop (b) SR flip – flop

(c) T flip – flop (d) JK flip – flop

3. The main advantage of multiple bus organisation over a single bus is _____

(a) Reduction in the number of cycles for execution

(b) Increase in size of the registers

(c) Better Connectivity

(d) All the above

4. _____ converts the programs written in assembly language into machine instructions.

(a) Machine compiler

(b) Interpreter

(c) Assembler

(d) Converter

5. The addressing mode, where you directly specify the operand value is _____

(a) Immediate (b) Direct

(c) Definite (d) Relative

6. Which of the following processor has a fixed length of instructions?

(a) CISC (b) RISC

(c) EPIC (d) Multi-core

7. The 1's complement of 1 in 4 bits is _____

(a) 0001 (b) 0

(c) 1001 (d) 1110

8. _____ transmission mode can transmit data in both the directions but transmits in only one direction at a time.

(a) simplex (b) half duplex

(c) full duplex (d) half-simplex

9. Which of the following is the fastest means of memory access for CPU?

(a) Registers (b) Cache

(c) Main memory (d) Virtual Memory

10. Which of the following is independent of the address bus?

(a) Secondary memory

(b) Main memory

(c) Onboard memory

(d) Cache memory

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Derive the truth table for the following function : $F = x + y z'$.

Or

(b) Write brief notes on Counters.

12. (a) What is Register Transfer? Give Example.

Or

(b) Explain the various functions in an Instruction cycle.

13. (a) Mention the address sequencing capabilities required in a control memory of a Microprogrammed Control Unit.

Or

(b) Write about Data Transfer Instruction's names and the Mnemonics and its use.

14. (a) How will you perform the Addition and Subtraction with Signed-2's Complement Data?

Or

(b) Write about the strobe control method of asynchronous data transfer.

15. (a) Write about the RAM chip and its function table.

Or

(b) Write brief notes on Time-shared common bus.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Illustrate the design procedure for a Combinational circuit with block diagram.

Or

(b) What are shift registers? Explain the four basic types of shift registers.

17. (a) Explain in detail about Memory transfers.

Or

(b) Illustrate the Arithmetic Logic Shift Unit with diagram.

18. (a) Specify the steps for executing a single computer instruction in a Microprogrammed Control Unit.

Or

(b) Describe Stack Organization and Register Stack with diagram.

19. (a) Illustrate the hardware for multiplication operation with block diagram.

Or

(b) Illustrate the connection of IO bus with IO devices with block diagram.

20. (a) Illustrate the memory hierarchy in a computer system with block diagram.

Or

(b) Describe the important characteristics of Multiprocessors.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7057 **Sub. Code : ZCAM 13**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

First Semester

Computer Application – Core

DESIGN AND ANALYSIS OF ALGORITHMS
USING C++

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which one of the following is an application of queue data structure

   (a) When a resource is shared among multiple consumers

   (b) When data is transferred asynchronously

   (c) Load Balancing

   (d) All of the above

2. Which of the following data structures can be used to implement queues?

   (a) Stack

   (b) Arrays

   (c) Linked List

   (d) All of the Above

3. Merge sort uses which of the following technique to implement sorting?

   (a) backtracking

   (b) greedy algorithm

   (c) divide and conquer

   (d) dynamic programming

4. What is the worst case time complexity of a quick sort algorithm?

   (a) O(N)

   (b) O(N log N)

   (c) $O(N^2)$

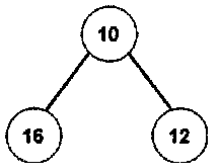
   (d) O(log N)

5. Consider a complete graph G with 4 vertices. The graph G has _____ spanning trees.

   (a) 15 (b) 8

   (c) 16 (d) 13

6. The following given tree is an example for?



(a) Binary tree (b) Binary search tree

(c) Fibonacci tree (d) AVL tree

7. What is the traversal strategy used in the binary tree?

(a) Depth-first traversal

(b) Breadth-first traversal

(c) Random traversal

(d) Priority traversal

8. A connected planar graph having 6 vertices, 7 edges contains _____ regions.

(a) 15 (b) 3

(c) 1 (d) 11

9. In Hamiltonian Cycle for n vertices, we _____.

(a) Can visit to same vertex two times

(b) Can't visit same vertex more than one time

(c) Can omit one vertex

(d) None of these

10. The worst-case efficiency of solving a problem in polynomial time is?

(a) O(p(n)) (b) O(p(n log n))

(c) O(p(n2)) (d) O(p(m log n))

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) What is a circular queue? Explain.

Or

(b) Define a heap. What are the types of heap?

12. (a) Write the algorithm for finding maximum and minimum using quick sort.

Or

(b) Discuss any five applications of divide and conquer problem.

13. (a) What is greedy method? Give one example for greedy method.

Or

(b) Write the algorithm for all pairs shortest path.

14. (a) What are the traversal method for a graph data structure?

Or

(b) Write the algorithm for N-queen problem.

15. (a) What is job shop scheduling-explain?

Or

(b) How will you solve knap sack problem using branch and bound algorithm?

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Write in detail about the asymptotic notations of algorithms.

Or

(b) Explain the dictionary data structure with suitable algorithm.

17. (a) Write the binary search method with algorithmic procedure.

Or

(b) Explain in detail about the strassen's matrix.

18. (a) Explain the 0/1 knapsack problem with suitable algorithm.

Or

(b) Give the general concepts of dynamic programming.

19. (a) What are spanning trees and how will you generate spanning trees?

Or

(b) Explain backtracking with an example.

20. (a) Write the basic Cook's theorem in design of algorithms.

Or

(b) What is NP- hard problem? Explain.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7058 **Sub. Code : ZCAM 14**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

First Semester

Computer Application – Core

ADVANCED JAVA PROGRAMMING

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which is a reserved word in the Java programming language?

   (a) method

   (b) native

   (c) subclasses

   (d) reference

2. Which of these cannot be used for a variable name in Java?

   (a) identifier and keyword

   (b) identifier

   (c) keyword

   (d) none of the mentioned

3. Which of these type parameters is used for a generic methods to return and accept a number?

   (a) K (b) N

   (c) T (d) V

4. Which of the following cannot be Type parameterized?

   (a) Overloaded Methods

   (b) Generic methods

   (c) Class methods

   (d) Overriding methods

5. Suppose you are developing a Java Swing application and want to toggle between various views of the design area. Which of the views given below are present for the users to toggle?

   (a) Design View

   (b) Requirements View

   (c) Source View

   (d) Management View

6. What is the name of the Swing class that is used for frames?

(a) Window (b) Frame

(c) JFrame (d) SwingFrame

7. What does the ava.net.InetAddress class represent?

(a) Socket (b) IP Address

(c) Protocol (d) MAC Address

8. Java supports RMI, RMI Stands for?

(a) Random Method Invocation

(b) Remote Memory Interface

(c) Remote Method Invocation

(d) Random Memory Invocation

9. Which of the following is not an Enterprise Beans type?

(a) Doubleton (b) Singleton

(c) Stateful (d) Stateless

10. Which of the following code is used to get an attribute in a HTTP Session object in servlets?

(a) session.getAttribute(String name)

(b) session.alterAttribute(String name)

(c) session.updateAttribute(String name)

(d) session.setAttribute(String name)

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is a constructor? Explain the two types of constructor in Java.

Or

(b) Write brie notes on Method Overriding and present the rules for Method Overriding in Java.

12. (a) Write about ByteStream Classes in Java.

Or

(b) Discuss in brief about Java Generics programming.

13. (a) Write notes on JButton Class, its declaration and commonly used constructors and methods.

Or

(b) Write brief notes on the different types of statement objects in JDBC.

14. (a) Write about the protocols supported by Java networking package.

Or

(b) Write short notes on Java InetAddress.

15. (a) Write about the important Properties of Java Bean.

Or

(b) What is a Cookie? How does it Work?

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Describe in detail about abstract and final classes in Java.

Or

(b) Describe Packages in Java with example program.

17. (a) Explain about Java I/O streams and its working functionalities.

Or

(b) Discuss in detail about Generic Class and Generic type parameters.

18. (a) Specify the different types of statement objects in JDBC.

Or

(b) Describe in detail about Java JDBC and the different types of drivers.

19. (a) Discuss in detail about Java Networking classes and interfaces.

Or

(b) Describe in detail about reading and writing a file via a Channel using JavaNIO.

20. (a) Explain about Introspection in Java Bean.

Or

(b) Discuss about the two important Entity beans persistence methods.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7059 **Sub. Code : ZCAM 15**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022

First Semester

Computer Application – Core

OBJECT ORIENTED ANALYSIS AND DESIGN
USING UML

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. Software development is _____ and always undergoing major change.

   (a) static (b) protected

   (c) dynamic (d) public

2. A subclass inherits all of the properties and methods defined in its

   (a) main class (b) inner class

   (c) child class (d) super class

3. UML stands for _____

   (a) Unified Modeling Language

   (b) Union Method Language

   (c) Unified Method Language

   (d) Union Member Language

4. Which of the following diagram is time oriented?

   (a) Collaboration

   (b) Sequence

   (c) Activity

   (d) Implementation

5. _____ is a creative activity that involves understanding the problem its associated constraints.

   (a) Modeling (b) Analysis

   (c) Design (d) Implementation

6. Superclass-subclass relationships also known as

(a) specialization hierarchy

(b) disjoint hierarchy

(c) jointness hierarchy

(d) generalization hierarchy

7. _____ provides a scheme for refining the subsystem or components of software systems.

(a) Axioms (b) Corollaries

(c) Design Patterns (d) Class Design

8. _____ is a measure of the degree of interdependence between modules.

(a) Cohesion (b) Coupling

(c) Modularity (d) Process

9. _____ testing assumes that the specific logic is important and must be tested to guarantee the system's proper functioning.

(a) Black box (b) White Box

(c) Top-down (d) Bottom-up

10. In which types of testing Cyclomatic complexity is measured?

(a) Black box testing

(b) White Box testing

(c) Yellow box testing

(d) Green box testing

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Write short note on Encapsulation and Information hiding.

Or

(b) Why do you use object orientation? List out the benefits of object orientation.

12. (a) Discuss about the Booch Methodology.

Or

(b) Explain Static and Dynamic Models.

13. (a) Mention the steps for finding use cases.

Or

(b) Explain about a part-of-relationships aggregation and patterns.

14. (a) Writes a short note on Design Patterns.

Or

(b) Explain Designing Methods and Protocols.

15. (a) Write short notes on Quality Assurance tests.

Or

(b) Explain about Usability Testing.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain about Class Hierarchy.

Or

(b) Discuss about the Object Oriented software development lifecycle.

17. (a) Write the difference between design patterns and frameworks.

Or

(b) Explain UML Extensibility.

18. (a) List out the guidelines for identifying super-sub relationship.

Or

(b) Explain the Methods for ViaNet bank objects.

19. (a) Explain in detail about coupling and cohesion.

Or

(b) Explain about micro level process.

20. (a) Explain briefly about the guidelines for developing test plans.

Or

(b) Describe about impact of Object Orientation on testing.

———————

Reg. No. : .....

Code No. : 7060 **Sub. Code : ZCAM 21**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022

Second Semester

Computer Application – Core

FINANCIAL AND MANAGEMENT ACCOUNTING

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions

Choose the correct answer :

1. The process of transferring of items from a Journal to their respective Ledger Accounts is called as

(a) Entry (b) Arithmetic

(c) Balancing (d) Posting

2. Journal is also called a

(a) A day book (b) History book

(c) Ledger book (d) An entry book

3. What is used in preparing trial balance?

(a) Specialised Journals (b) Balance Sheet

(c) Ledger Accounts (d) General Journal

4. If the rate of Gross Profit on Sales is 30% and the cost of goods sold is Rs. 70,000. What is the amount of Sales?

(a) 10000 (b) 21000

(c) 49000 (d) 233,333

5. The liquid Ratio should be around

(a) 4 (b) 5

(c) 2 (d) 1

6. Funds inflow from operation is

(a) An Internal Source of funds

(b) An Application of Funds

(c) An External Source of Funds

(d) None of the above

7. Marginal cost

(a) Prime cost (b) Variable cost

(c) Works cost (d) Cost of Production

8. Margin of Safety

(a) Sales at which profit is high

(b) Sales at which there is loss

(c) Sales in excess of BEP

(d) None of the above

9. Standard costing is a

(a) Method of costing

(b) Techniques for cost

(c) Cost Control Technique

(d) None of the above

10. Variance analyses involves

(a) Dividing variance According

(b) Fixing Responsibility for loss

(c) Identifying gains in working

(d) None of the above

PART B — (5 × 5 = 25 marks)

Answer ALL the questions, choosing either (a) or (b)

11. (a) Discuss the types of Accounting

Or

(b) Journalise the following

(i) Goods taken by the proprietor Rs.2000

(ii) Paid in to bank Rs.8000

(iii) Insurance Premium paid by cheque Rs.200

(iv) Stated business with furniture worth Rs.5000

12. (a) Explain the objectives of Final Accounts.

Or

(b) Prepare Trading A/c from the following data.

	Rs.		Rs.
Opening stock	60,000	Purchases	6,00,000
Purchases returns	10,000	Carriage inwards	20,000
Freight and cartage	30,000	Sales	10,00,000
Carriage outwards	15,000	Sales retunes	20,000
Closing inventory	50,000	Wages	25,000

13. (a) Calculate gross profit ratio from the following figures.

	Rs.
Sales	10,00,000
Sales returns	1,00,000
Opening stock	2,00,000
Purchases	6,00,000
Purchases returns	1,50,000
Closing stock	65,000

Or

(b) What are the benefits of a fund flow statement.

14. (a) Discuss the nature and scope of costing.

Or

(b) From the following data calculate.

(i) P/V Ratio

(ii) Variable cost

(iii) Profit

Sales Rs. 80,000

Fixed expenses Rs. 15,000

Breakeven point Rs. 50,000

15. (a) What are classification of budgets.

Or

(b) Calculate material usage or quantity variance from the following .

Standard	400 units at	Rs.10 each
Actual	360 units at	Rs.7 each

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

16. (a) Write the relation between journal and ledger.

Or

(b) Prepare three column cast bank.

		Rs.
2009 May1	Kannan started business with cost	10,000
2	Opened a current account with syndicate bank	4,000
3	Paid rent by cheque	2,000
7	Cast sales	5,000
9	Received interest directly through ECS in our bank	2,000
12	Paid wages	200
20	Drew from bank for office use	500

17. (a) How a balance sheet differs from a Trial Balance.

Or

(b) Prepare trading profit and loss A/c and balance sheet from the following as on 31.3.2016

Particulars	Rs.	Particulars	Rs.
Capital	20,000	Bank	50,000
Rent	6,000	Land and building	25,000
Furniture	10,000	Bills payables	7,500
Debtors	8,000	Rent received	2,000
General expenses	750	Sales	12,98,00
Opening stock	5,000	Salaries	5,750
Wages	7,000	Stationery	4000
Plant and machinery	50,000	Bills renewables	4,800
Creditors	12,000	Commission receded	4,500
Telephone	1,500	Investment	78,000
Purchases	1,00,000		

Adjustment:

(i) Closing stock Rs. 12,200

(ii) Depreciation land and building plant and machinery and feature at 10%

18. (a) Prepare operating Ratio, operating profit ratio and operating profit.

	Rs.
Sales	20,00,000
Gross profit	8,00,000
Office expenses	60,000
Selling expenses	40,000
Finance expenses	30,000
Loss on sale of plant	4,000
Interest received on investments	5,000
Net profit	6,71,000

Or

(b) Prepare funds flow statement.

Liabilities	2004	2005	Assets	2004	2005
Share capital	40,000	45,000	Cash	30,000	47,000
Trade creditors	10,000	23,000	debtors	1,20,000	1,15,000
P/L A/c	2,30,000	2,50,000	Stock in trade	80,000	90,000
			Land	50,000	66,000
	2,80,000	3,18,000		2,80,000	3,18,000

19. (a) What is a importance as cost classification.

Or

(b) Find

(i) P/V Ratio

(ii) Break even point

(iii) Profit

(iv) Margin of safety

(v) Volume of sales to earn profit of Rs.6000

Total sales Rs. 15,000

Total fixed cost Rs. 4,500

Total variable cost Rs.7,500

20. (a) A Company at present opwerating at 50% capacity produces and sells 10,000 units. Then unit cost is Rs. 180 and the selling price is Rs. 200

The expenses per unit are given below.

Direct expenses Rs. 100

Direct labour Rs. 30

Factory expenses 160%

Variable Rs.30

Administrative expenses Rs. (40% fixed) 20

Prepare a flexible budget at 80% capacity.

Or

(b) How do you set standards for different elements of cost.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7061 **Sub. Code : ZCAM 22**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Second Semester

Computer Applications — Core

MACHINE LEARNING USING PYTHON

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———— algorithms are used when the outputs are restricted to a limited set of values

   (a) KNN (b) Regression

   (c) Clustering (d) Classification

2. Types of supervised learning algorithms include

   (a) Active learning (b) Classification

   (c) Regression (d) All the above

3. Machine learning is a subset of

(a) Artificial intelligence

(b) Data learning

(c) Deep learning

(d) None

4. What is unsupervised learning?

(a) Number of groups may be known

(b) Features of group explicitly stated

(c) Neither feature nor number of group is known

(d) None

5. Decision trees are a type of ———— learning where the data is continuously split according to a certain parameter.

(a) supervised (b) unsupervised

(c) both (a) and (b) (d) none

6. ———— transformation preserves linear relationships between variables

(a) Non linear (b) Linear

(c) Both (a) and (b) (d) None

7. In cross validation, ———————— data used for model development

(a) validation (b) training

(c) both (a) and (b) (c) none

8. The ———————— technique is an exhaustive cross validation method. That randomly splits the dataset into train and test data depending on the data analysis.

(a) K-fold (b) Time series

(c) Hold out (d) Nested

9. Advantages of pipe line

(a) Flexibility (b) Extensibility

(c) Scalability (d) All the above

10. A ———————— is a way to coding and automate the workflow it takes to produce a machine learning model

(a) Binning (b) Pipeline

(c) Both (a) and (b) (d) None

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) What is scikit learn? How to install scikit learn?

Or

(b) What is the need for machine language?

12. (a) What are the different types of unsupervised learning?

Or

(b) What is clustering? Give a brief note on Agglomerative clustering.

13. (a) What do you mean by categorical variables?

Or

(b) Give a brief note on trees.

14. (a) What is cross-validation? List out any two benefits.

Or

(b) What is stratified K-fold cross validation?

15. (a) Write short note on parameter selection with preprocessing.

Or

(b) How to access step attributes in general pipeline interface?

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) What are the essential libraries and tools available in python?

Or

(b) Write short note on K-Nearest Neighbors and decision trees.

17. (a) Give a brief note on K-means clustering and DB scan.

Or

(b) What do you mean by preprocessing and scaling? Explain.

18. (a) Explain in detail about binning, discretization and linear models.

Or

(b) Discuss in detail about automatic feature selection.

19. (a) What is grid search? Give a brief note on it.

Or

(b) Explain evaluation metrics and scoring in detail.

20. (a) How to build pipeline? Give a brief note on grid searching-which model to use?

Or

(b) Write short note on the following :

Grid searching processing steps and model parameters.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7062 **Sub. Code : ZCAM 23**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Second Semester

Computer Applications – Core

ADVANCED WEB TECHNOLOGY

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Math. Abs (–25) =

   (a) 5 (b) –25

   (c) 25 (d) None

2. The data type ———————— contains a true or false value.

   (a) Object (b) Single

   (c) Double (d) Boolean

3. ———————— provide a richer object model with a variety of properties for style and formatting details, more events and a closer parallel to windows development.

(a) HTML server controls

(b) Web controls

(c) Both (a) and (b)

(d) None

4. The HTML tag represented for the class name Html anchor is

(a) <Anchor> (b) <Anch>

(c) <A> (d) None

5. ———————— uses the select command to retrieve information about a table, such as column constraints and add it to a data set

(a) Fill (b) update

(c) Fill schema (d) none

6. ———————— command used to delete one or more rows from a table

(a) delete (b) update

(c) drop (d) none

7. The web service standard ———————— is used to encode information before sending it to or from a web service.

(a) WSDL (b) HTTP

(c) UDDI (d) SOAP

8. ———————— should specify these values if the web server requires authentication to access the discovery and WSDL documents.

(a) User name (b) Pass word

(c) Domain (d) All the above

9. ————————allow you to reuse a portion of a page, by placing it in a special .ascx file.

(a) Derived controls (b) User controls

(c) Both (a) and (b) (d) None

10. ————————stores and reuses the compiled HTML output of a portion of a user control on a page.

(a) Fragment caching (b) Data caching

(c) Output caching (d) None

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Give a brief note on functions and subroutines.

Or

(b) How to create virtual directory in IIS manager?

12. (a) How does postback event work?

Or

(b) What do you mean by single step debugging?

13. (a) Compare: ADO versus ADO.Net.

Or

(b) What are XML's hidden role in .Net?

14. (a) What do you mean by the proxy class?

Or

(b) What is dynamic discovery?

15. (a) Expand and give a note on SSL.

Or

(b) How to create custom control event?

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) What are the different types of data types available in .Net? How to declare a variable?

Or

(b) Write down the basics about objects.

17. (a) Discuss in detail about web control classes.

Or

(b) What do you mean by validation? With an example explain it in detail.

18. (a) How to create a connection in ADO.Net data access?

Or

(b) What is data binding? Explain single value and repeated value data binding in detail.

19. (a) Write short note on the following : (i) WSDL (ii) SOAP

Or

(b) How to create your web services? Explain.

20. (a) Why do we use component? How to create a simple component?

Or

(b) Discuss in detail about user controls.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7068 **Sub. Code : ZCAM 31**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Third Semester

Computer Application – Core

DATA SCIENCE AND ANALYTICS

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL the questions.

Choose the correct answer :

1. How do we perform Bayesian classification when some features are missing?

   (a) We integrate the posteriors probabilities over the missing features

   (b) We ignore the missing features

   (c) We assuming the missing values as the mean of all values

   (d) Drop the features completely

2. Data science is the process of diverse set of data through?

(a) Organizing data (b) Processing data

(c) Analysing data (d) All of the above

3. Which of the following is required by K-means clustering?

(a) defined distance metric

(b) number of clusters

(c) initial guess as to cluster centroids

(d) all of the mentioned

4. Which of the following methods do we use to best fit the data in Logistic Regression?

(a) Least Square Error

(b) Maximum Likelihood

(c) Jaccard distance

(d) Both (a) and (b)

5. _____ is a programming model designed for processing large volumes of data in parallel by dividing the work into a set of independent tasks.

(a) Hive (b) MapReduce

(c) Pig (d) Lucene

6. Which tool is used to efficiently move data between relational databases and HDFS?

(a) Hive (b) Pig

(c) Sqoop (d) Hbase

7. Point out the correct statement.

(a) IBM InfoSphere DataStage is an ETL tool

(b) IBM InfoSphere DataStage is a part of the IBM Information Platforms Solutions suite and IBM InfoSphere

(c) InfoSphere uses a graphical notation to construct data integration solutions

(d) All of the mentioned

8. InfoSphere _____ provides you with the ability to flexibly meet your unique information integration requirements.

(a) Data Server (b) Information Server

(c) Info Server (d) All of the mentioned

9. With the help of _____ Hadoop can be used with data-at-rest as well as data-in motion.

(a) Infosphere Biginsights

(b) Infosphere streams

(c) Infosphere

(d) Both (a) and (b)

10. Which of the following genres does Hadoop produce?

(a) Distributed file system

(b) JAX-RS

(c) Java Message Service

(d) Relational Database Management System

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Define data science. Why we need data science?

Or

(b) Estimate the steps in polynomial regression.

12. (a) Write an overview of any two unsupervised learning methods.

Or

(b) Distinguish between supervised learning and unsupervised learning.

13. (a) Define Bigdata. Specify the characteristics of Bigdata.

Or

(b) Differentiate data in warehouse and data in Hadoop.

14. (a) How to install Infoshphere Biglnsights. Mention the components included in Biglnsights 1.2.

Or

(b) Appraise Hadoop compression technique.

15. (a) Examine the Infosphere Stream basics.

Or

(b) Structure the Infosphere streams tool kits.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Speculate the Bayes rule supervised learning.

Or

(b) Intervene the prerequisite probability concepts for Bayes rule.

17. (a) Elucidate Naïve Bayes classifier.

Or

(b) Explain logistic regression and its different types.

18. (a) Paraphrase

(i) Importance of Bigdata

(ii) Bigdata use cases

Or

(b) Generalize the components of Hadoop.

19. (a) Generalize the Data Discovery and Visualization

Or

(b) Formulate the concepts behind General Parallel file System.

20. (a) Elucidate on industry use cases for InfoSphere Streams.

Or

(b) Elaborate on the Streams Processing Language.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7069 **Sub. Code : ZCAM 32**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022

Third Semester

Computer Application

ADVANCED DIGITAL IMAGE PROCESSING

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. MATLAB stands for?

   (a) matrix laboratory

   (b) math library

   (c) matric library

   (d) matrix library

2. Which command is used to clear a command window?

(a) clear (b) close all

(c) clc (d) clear all

3. To display comments of M-file, we use

(a) echo on

(b) comment on

(c) show %

(d) Cannot be displayed

4. Where do we need to store a function to call it in other programs?

(a) The bin folder

(b) Anywhere

(c) The MATLAB folder

(d) Desktop

5. If R_1 is the region of convergence of $x(n)$ and R_2 is the region of convergence of $y(n)$, then the region of convergence of $x(n)$ convoluted $y(n)$ is

(a) $R_1 + R_2$ (b) $R_1 - R_2$

(c) $R_1 \cap R_2$ (d) $R_1 \cup R_2$

6. DFT is applied to

   (a) Infinite sequences

   (b) Finite discrete sequences

   (c) Continuous infinite signals

   (d) Continuous finite sequences

7. Frequency selectivity characteristics of DFT refers to

   (a) Ability to resolve different frequency components from input signal

   (b) Ability to translate into frequency domain

   (c) Ability to convert into discrete signal

   (d) None of the above

8. DTFT is the representation of

   (a) Periodic Discrete time signals

   (b) Aperiodic Discrete time signals

   (c) Aperiodic continuous signals

   (d) Periodic continuous signals

9. Which command enables a title for the y-axis?

   (a) vertlabel()

   (b) ylabel()

   (c) ylabel[ ]

   (d) no command

10. How can several graphs for the same function be plotted on the same window?

(a) Contour plots

(b) Bode plots

(c) 3-D plots

(d) n-D plots

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Describe the image types in Matlab.

Or

(b) Discuss about the spatial filtering.

12. (a) Differentiate direct inverse filtering from wiener filtering.

Or

(b) Describe any one of the Noise model.

13. (a) Analyze the colour transformation techniques.

Or

(b) Explain the Wavelets in Image processing.

14. (a) Describe the coding redundancy

Or

(b) Write notes on JPEG compression.

15. (a) Compare line detection form edge detection.

Or

(b) Explain the boundary description in image segmentation

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain how to save and retrieve work session data in Matlab.

Or

(b) Categorize the image processing toolbox

17. (a) Construct and visualize the 2-D DFT in Matlab

Or

(b) Design the image restoration process with diagram.

18. (a) Explain the basics of colour image processing.

Or

(b) Construct and working directly in a RGB vector space with example

19. (a) Explain the coding redundancy

Or

(b) Analyze the process of combining dilation and erosion

20. (a) Create a program using line detection using the Hough transform

Or

(b) Explain the representation of image segmentation.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7070 **Sub. Code : ZCAM 33**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Third Semester

Computer Application – Core

PRINCIPLES OF COMPILER DESIGN

(For those who joined in July 2021)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———————— read the input characters and produce as output token.

(a) Lexical Analyzer (b) Syntax analyzer

(c) Code optimization (d) None of these

2. Compiler can diagnose

(a) Grammatical errors only

(b) Logical errors only

(c) Grammatical as well as logical errors

(d) Neither grammatical nor logical errors

3. Type three Grammer is ————————.

(a) Context free grammer

(b) Context sensitive grammer

(c) Regular grammer

(d) None of the above

4. ———————— Grammar are known as context sensitive grammars.

(a) Type 0 (b) Type 1

(c) Type 3 (d) Type 2

5. Recursive descent parser is ————————.

(a) Top down parser

(b) Bottom up parser

(c) Top and bottom up parser

(d) None of these

6. Left factoring is the process of factoring ————————.

(a) Prefixed of alternates

(b) Suffixes of alternates

(c) Predictive parsing

(d) None of these

7. DAG means

(a) Directed Acyclic Graph

(b) Directed Asynchronous Graph

(c) Directed Asymmetric Graph

(d) Directed Address Graph

8. Information needed by a single execution of a procedure is managed using a contiguous block of storage called as ————————.

(a) Activation record

(b) Frame

(c) Both (a) and (b)

(d) None

9. The graph that shows basic blocks and their successor relationship is called ————————.

(a) DAG (b) Flow graph

(c) Control graph (d) Hamiltonion graph

10. A graph representation of three address statements called ————————.

(a) Basic blocks (b) Flow graph

(c) Both (a) and (b) (d) None

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Define Translator. Write the types of translator.

Or

(b) What is symbol table? Write the uses of it.

12. (a) Define token. Discuss it.

Or

(b) Write the rules that define regular expression.

13. (a) Differentiate Deterministic and Non-Deterministic finite automata.

Or

(b) What are quadruples? Give example.

14. (a) What are the applications of syntax directed translation?

Or

(b) Define three address code. How three address code are implemented.

15. (a) Write about stack allocation of space.

Or

(b) What is basic block? Write the algorithm of partitioning into basic blocks.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Discuss the structure of compiler with diagram.

Or

(b) Explain Push Down Automata with its working principle.

17. (a) Construct the DFA for the regular expression $(a+b)^* aab$.

Or

(b) Explain about the principal sources of optimization.

18. (a) Write LR parsing algorithm. Discuss it.

Or

(b) Explain about the types of grammars. Give example.

19. (a) Describe about Syntax Directed Translation.

Or

(b) How to implement of three address statement?

20. (a) Discuss about the issues related to the design of code generator.

Or

(b) How to optimize the basic blocks with flow graphs?

———————

(6 pages) **Reg. No. :** .....

Code No. : 7071 **Sub. Code : ZCAM34**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Third Semester

Computer Application - Core

RESEARCH METHODOLOGY

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is a programme that can help with thematic analysis?

   (a) MAXQDA

   (b) ZylNDEX

   (c) Develve

   (d) Epi data

2. _____ involve a set of predetermined questions and highly standardized techniques of recording?

   (a) Structured interview

   (b) Unstructured interview

   (c) Interview guide

   (d) All of the above

3. Find out an example for probability sampling?

   (a) Convenience or accidental sampling

   (b) Purposive or judgmental sampling

   (c) Quota sampling

   (d) Stratified random sampling

4. Which Chi square distribution looks the most like a normal distribution?

   (a) A Chi square distribution with 4 degrees of freedom

   (b) A Chi square distribution with 5 degrees of freedom.

   (c) A Chi square distribution with 6 degrees of freedom.

   (d) A Chi square distribution with 16 degrees of freedom.

5. What is it called when the data is sourced from the place of origin?

(a) Secondary

(b) Primary

(c) Secondary and primary

(d) All of the above

6. Information of research is called ——————

(a) Qualitative

(b) Quantitative

(c) Qualitative and Quantitative both

(d) None of the above

7. In technical writing the largest report termed is.

(a) Conclusion/recommendation

(b) Discussion

(c) Heading

(d) Footing

8. In a technical report which of these must be avoided?

(a) Facts

(b) Logical conclusion

(c) Objective evaluation

(d) Subjective evaluation

9. The method of collecting primary data is called-

(a) Questionnaire and schedule method.

(b) Observation and interview method

(c) None of the above

(d) All of the above

10. Which is not basis for a technical report?

(a) Facts (b) Tests

(c) Personal prejudices (d) Experiments

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Differentiate research methods from research methodology.

Or

(b) Summarize the features of good design.

12. (a) Evaluate the characteristics of a good sample design.

Or

(b) Classify the types of scaling.

13. (a) Classify the applications of Yate's correction.

Or

(b) Explain the ANOVA test in Latin square design.

14. (a) Explain the techniques for interpretation.

Or

(b) Evaluate the collection of data through schedules.

15. (a) Design the steps in development of algorithm.

Or

(b) Explain the meta heuristics for combinational problem.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Explain the steps in research process.

Or

(b) Distinguish the different research design.

17. (a) Write the steps in sample design.

Or

(b) Evaluate the important scaling technique.

18. (a) Summarize the limitations of Chi-square test.

Or

(b) Explain the concept of one way ANOVA.

19. (a) Evaluate the methods for secondary data collection.

Or

(b) Analyze the significance of report writing.

20. (a) Compose the steps of algorithmic research.

Or

(b) Evaluate the role of computer applications in algorithmic research.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7073 **Sub. Code : ZCAE 32**

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Third Semester

Computer Application - Elective

MOBILE APPLICATION DEVELOPMENT

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Mobile phone communication is a

   (a) Simplex

   (b) Full duplex

   (c) Half duplex

   (d) Full simplex

2. The critical factors that influence mobile application development costs are

   (a) The app's features and functionalities.

   (b) Platforms you want to build for and customization of visual design.

   (c) The complexity of backend infrastructure and administration.

   (d) All the mentioned

3. On which of the following, developers can test the application, during developing the android applications?

   (a) Third-party emulators

   (b) Emulator included in Android SDK

   (c) Physical android phone

   (d) All of the above

4. Which of the following virtual machine is used by the Android operating system?

   (a) JVM

   (b) Dalvik virtual machine

   (c) Simple virtual machine

   (d) Byte code

5. Identify the topmost layer of Android architecture

   (a) Applications

   (b) Applications frame work

   (c) Linux kernel

   (d) System libraries and android runtime

6. The android library that provides access to UI pre-built elements such as buttons, lists, views etc. is

   (a) android.text (b) android.os

   (c) android.view (d) android.webkit

7. GCM in android stands for

   (a) Google cloud messaging

   (b) Google count messaging

   (c) Google center messaging

   (d) Game center messaging

8. We can create a custom view by extending class

   (a) android. widget.view

   (b) android.widget.LinearLayout

   (c) android.view.View

   (d) android.content

9. In which operating system iPhone/iPad development is done?

(a) Widows (b) Linux

(c) Mac OS (d) Unix

10. Which of the following is application development environments for iOS?

(a) Cocoa (b) Cocoa touch

(c) Cocoa iOS (d) Cocoa begin

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Identify the cost of mobile application development.

Or

(b) Construct report on mobile platforms.

12. (a) Interpret the steps in creating your first android application.

Or

(b) Sketch the android architecture and explain.

13. (a) Illustrate any two views that you can use to design the UI of your android application.

Or

(b) How do you prepare your android application for publishing?

14. (a) How to send SMS message with android application?

Or

(b) Present the working of downloading binary data with android application.

15. (a) Interpret the components of XCODE.

Or

(b) Describe the windows phone 7 project.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Analyze the importance of mobile strategies in the business.

Or

(b) Elaborate on effective use of screen real estate in mobile application.

17. (a) Present an overview of anatomy of an android application.

Or

(b) What are the activities in android programming?

18. (a) Illustrate views and view groups in android UI design.

Or

(b) How to display maps in android user interface?

19. (a) How do you access web services using GET method?

Or

(b) Illustrate the sending email with android application program.

20. (a) Describe the iOS architecture for mobile application.

Or

(b) What are the important tools for iOS app development? Explain.

———————

(6 pages) **Reg. No. :** .....

Code No. : 7074 **Sub. Code : ZCAE 33**

M.C.A (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Third Semester

Computer Application

Elective — MOBILE COMPUTING

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. IEEE stands for ————————.

   (a) Innovative Electrical and Electronic Engineers

   (b) Instruction of Electrical and Electronic Engineers

   (c) Institute of Engineering with Electronic and Electrical

   (d) Institute of Electrical and Electronic Engineers

2. Which generation of cellular mobile Communication makes mobile broadband internet access

(a) 3G (b) 4G

(c) 5G (d) Android

3. In _____, multiple users are allotted different codes that consist of sequence of 0 and 1 to access the same channel .

(a) CDMA (b) CSMA

(c) TDMA (d) FDMA

4. Mobile ad-hoc networks are _____ network.

(a) Infrastructure based wireless

(b) Infrastructure less wireless

(c) Infrastructure based wired

(d) Infrastructure less wired

5. A _____ can be summarized as: 'supporting end-system mobility while maintaining scalability, efficiency and compatibility in all respects with existing applications and Internet protocols'.

(a) Wi-fi (b) mobile IP

(c) Wi-MAX (d) LAN

6. The behavior of TCP shows after the detection of congestion is called

(a) slow start (b) slow down

(c) wait to restart (d) none of the above

7. In ACID properties C refers _____.

(a) control (b) consistency

(c) computer (d) concurrency

8. This is a special type of distributed environment and can accommodate user movements while issuing the transactions, and the system reports the results.

(a) Mobile Environment

(b) Distributed Environment

(c) Client-Server Environment

(d) Centralized Environment

9. The Java APIs which are present in _____ layer provide reusable functionalities corresponding to user interface, persistence storage, and networking.

(a) Profile layer

(b) Configuration layer

(c) (JVM) layer

(d) Mobile Information Device Profile (MIDP)

10. The environment to develop applications for Android consists of _____.

(a) Android SDK

(b) IDE Eclipse

(c) Java Development Kit (JDK)

(d) All of these

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Record the components of wireless communication system.

Or

(b) Classify the mobile networking standards and explain

12. (a) List and discuss any three random assignment schemes of MAC protocol

Or

(b) Give elaborate note on Wireless Datagram Protocol

13. (a) Analyse IP packet delivery with neat sketch.

Or

(b) List and explain any three mechanisms of the transmission control protocol.

14. (a) Enumerate and explain the issues in transaction processing with the mobile environment

Or

(b) Compare Symbian operating system with iOS

15. (a) Draw J2ME configuration block structure and explain.

Or

(b) Discuss the features required of a mobile device to enable M-Commerce.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Draw and explain the architecture of mobile telecommunication system.

Or

(b) Discuss the structure of mobile computing application.

17. (a) Explain the following

(i) Any four features of WML

(ii) WML script with its libraries

Or

(b) Present a detailed notes about Wireless Session Protocol.

18. (a) Discuss about various the entities and terminologies of mobile IP.

Or

(b) Articulate the classical TCP improvements in detail.

19. (a) Describe the transaction processing in mobile environments.

Or

(b) Compare the Monolithic operating system structure with microkernel operating system

20. (a) Categories the applications of M-commerce and explain each one in detail

Or

(b) What are the three popular types of M-payment schemes? Explain.

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Code No. : 7075 **Sub. Code : ZCAE 34**

M.C.A (CBCS) DEGREE EXAMINATION,
NOVEMBER 2022.

Third Semester

Computer Application

Elective — PROFESSIONAL ETHICS

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. We use which among the following technique in business organizations and firms for protecting the IT assets?

   (a) Ethical hacking

   (b) Unethical hacking

   (c) Fixing bugs

   (d) Internal data-breach

2. Ethical decision making frameworks

   (a) give us the answers to ethical dilemmas

   (b) are all the same

   (c) provide us with different framework to help us identify key issues and arrive a plan of action with a clear rationale

   (d) none

3. Consider the following real-life example: If a person uses someone's song as background music in his/her music video then could be an act a person is an example of

   (a) identify theft

   (b) hacking

   (c) cyber bullying

   (d) copyright infringement

4. The term 'Intellectual Property Rights' covers

   (a) Copyrights (b) Know-how

   (c) Trademark (d) All of the above

5. General guidelines of computer ethics are needed for

   (a) Cracking

   (b) Computer crime

   (c) Protection of personal data

   (d) All the above

6. ———————— refers to protecting data and computer system against dishonesty or negligence of employees.

(a) Personnel Security (b) Personal security

(c) Physical security (d) None of these

7. _____ is defined as the right of a person to guide.

(a) democracy (b) responsibility

(c) freedom (d) authority

8. Ethical issues that can affect an Engineers professional and personal life are termed as

(a) Macro-ethics (b) Micro-ethics

(c) Morals (d) Rights

9. Which of the following is an example of cyber stalking

(a) Sending someone an email asking them to help you with a class work

(b) Posting a vacation picture with your friends

(c) Leaving anonymous posts on social media that ridicule someone

(d) All the mentioned

10. _____ types of sites are known as friend-of-a-friend site.

(a) Chat Messenger

(b) Social networking sites

(c) Tutorial sites

(d) Chat-rooms

PART B — ($5 \times 5 = 25$ marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) What are the ethics behind professional code of conduct? Specify its benefits.

Or

(b) Describe the various ethical issues

12. (a) Present a report on security measures to be adopted in computers.

Or

(b) What do you mean by patent? Explain about software patent.

13. (a) Summarize the ethical guidelines for information professional.

Or

(b) Explain the concepts of Internet technologies and privacy.

14. (a) Discuss the details about ACM principles for software professional.

Or

(b) In what ways the computers improve the quality of work? Explain.

15. (a) Describe: Cyberstalking with its protective measures.

Or

(b) What are the use of social network in the hiring process? Explain.

PART C — ($5 \times 8 = 40$ marks)

Answer ALL questions, choosing either (a) or (b)

Each answer should not exceed 600 words.

16. (a) Describe the ethics on BCS code of conduct.

Or

(b) Present detailed notes on the following : (i) hacker ethics (ii) ethical positions on hacking

17. (a) Elaborate explain copyrights.

Or

(b) Explain the following: (i) trademarks (ii) open source codes

18. (a) Write detailed notes on Risk Benefit Analysis.

Or

(b) "Technology is a threat to privacy". – justify this with the ethical challenges to information technology.

19. (a) Depict the importance of empowering computers in work place.

Or

(b) Outline the concepts behind software engineering code of ethics and practices.

20. (a) Organise the strategies of engineering quality standards.

Or

(b) Describe the social networking ethical issues.

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