

SARDAR PATEL UNIVERSITY
BCA EXAMINATION, III SEM

Date : 14th NOV 2017, Tuesday

Time : 02:00pm To 05:00pm

Session : Evening

Sub: Relational Database Management System – I

Course No : US03CBCA01

Total marks : 70

Q-1 Multiple Choice Question

[10]

- i) Actual value of a column is also called _____
 a) Tuple b) Derived Attribute c) Attribute d) Domain
- ii) How many conceptual schemes are available per database?
 a) One b) Two c) Three d) Four
- iii) Which constraint is used to respect the type and representation of its attributes
 a) Domain b) References c) Entity d) Simple
- iv) _____ query statement is auto committed query ?
 a) Insert b) Drop c) update d) Grant
- v) _____ SQL statement is use to modify data type of any column of table.
 a) Change b) Update c) Alter d) Create
- vi) _____ SQL PLUS command is use to execute a command file.
 a) Connect b) Save c) start d) spool
- vii) A _____ value can be inserted into the columns of any data type.
 a) Null b) Unique c) Not Null d) Index
- viii) Table level constraints are stored as a part of the _____ table definition.
 a) Primary b) Global c) Temporary d) Local
- ix) _____ clause imposes a condition of the group by clause.
 a) Group by b) Sub query c) Having d) Where
- x) The address field of an index is called _____
 a) Row id b) Column id c) View d) Index

Q-2 Short Answer **attempt any ten (Each carry 2 marks)**

[20]

- i) Draw the three level architecture of DBMS.
- ii) Define domain and relationship.
- iii) Define attribute and tuple.
- iv) Explain Order By clause.
- v) List auto committed commands and explain any one with its syntax and example
- vi) Explain ED and set Linesize of SQL*PLUS command.
- vii) Differentiate Null value and an Empty string
- viii) What is Column level constraints?
- ix) Explain DECODE function with simple example.
- x) What is privilege? List the type of Privileges.
- xi) What is synonyms?
- xii) How can the Grant given on a object?

- Q-3
- a) Explain different types of architecture.
 - b) List out Codd rules and explain any five.

[05]

[05]

OR

- Q-3
- a) What is E-R Diagram? Draw the different symbol of ER Diagram.
 - b) Explain Relational Data model

[05]

[05]

- Q-4
- a) Explain various ways to change structure of table using alter statement..
 - b) What is DML? List types of statement of it and explain any two.

[05]

[05]

OR

- Q-4 a) Explain various ways to insert records in a table [05]
b) Explain how to filtering the data in ORACLE. Explain with proper syntax and example [05]

Q-5 Explain Primary and Foreign key constraint with appropriate example. [10]

OR

Q-5 List all scalar functions available in SQL and explain any three main function with its sub functions in detail. [10]

Q-6 a) What is transaction processing ? Explain all TCL statements. [05]

b) What is index? List types of index and explain any one with example. [05]

OR

Q-6 a) What is view? Why it is created, explain it syntax & example. [05]

b) Explain referencing a sequence with the example. [05]

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(2)

SEAT No. _____

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SC

[82/A-39] SARDAR PATEL UNIVERSITY
BCA EXAMINATION, IIIrd SEMESTER

Wednesday, 15th November, 2017

2:00 p.m. to 5:00 p.m.

US03CBCA02

[Object Oriented Programming and C++]

Maximum Marks: 70

Q-1

Multiple Choice Question.[Each Question carries one Mark]

[10]

- 1) _____ means "To bind data & functions into a single unit"
A. Inheritance
B. Polymorphism
C. Data hiding
D. Encapsulation
- 2) _____ is known as scope resolution operator.
A. &
B. <<
C. >>
D. ::
- 3) _____ is basic run time entity in object-oriented system.
A. Class
B. Object
C. Data
D. Function
- 4) _____ is used to free/destroy the memory occupied by the objects.
A. Constructor
B. Destructor
C. Delete
D. None of Above
- 5) Object without name is known as _____.
A. nameless object
B. live object
C. constant object
D. default object
- 6) _____ operator is also known as insertion or put-to operator.
A. cin
B. cout
C. both (A) and (B)
D. Non of Above
- 7) One base class & multiple derived classes means _____ inheritance.
A. multiple
B. hierarchical
C. multilevel
D. hybrid
- 8) Which of the following is a valid function prototype in C++?
A. int sum(int a, int b, int c = 0)
B. int sum(int a = 0, int b, int c)
C. int sum(int a, int b = 0, int c)
D. int sum(int a = 0, int b, int c = 0)
- 9) Which one of the following operators can be overloaded?
A. ::
B. New
C. .*
D. Sizeof
- 10) The correct function name for overloading the addition (+) operator is
A. operator+
B. +operator
C. operator(+)
D. operator:+

[PTO]

- Q-2 Give Answers for the following:(Any ten) [20]
1. List out the features of OOP.
 2. Define : variable and constant.
 3. List out types of operator available in C++.
 4. Define constructor and write characteristics of constructor
 5. Define nameless object.
 6. Explain cout in C++ with example.
 7. List situations when inline function is not expanded inline.
 8. What is the difference between private & protected members of the class?
 9. Discuss default arguments briefly.
 10. What is an operator function? Describe the syntax of an operator function.
 11. What are input and output stream?
 12. List out five operators to be overloaded in C++.
- Q-3 A) Explain the concept of class & object with example. [5]
 B) Explain Encapsulation in detail with example. [5]
 OR
- Q-3 A) Explain Polymorphism concepts of Object Oriented Programming with example. [5]
 B) Explain enumeration data types with example. [5]
- Q-4 A) Explain parameterized constructor with example. [5]
 B) Explain declaration and initialization of two dimensional array with example. [5]
 OR
- Q-4 A) Explain the forms (methods) of member function definition for the class with an example. [5]
 B) Explain Array of object with example. [5]
- Q-5 A) Explain multiple & multilevel inheritance with suitable example. [5]
 B) Discuss inheritance in public mode & its effects on accessibility of base-class members. [5]
 OR
- Q-5 A) Define inheritance. List all types of inheritance. Discuss the syntax of defining base-class & derived class. [5]
 B) Explain the concept of friend function with suitable example. [5]
- Q-6 Explain Unary and Binary operator overloading with example. [10]
 OR
- Q-6 Define file mode. Explain opening file with following ways: [10]
 (a) by constructor function (b) by open ().

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Roll No. _____

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[588 A-46]

SARDAR PATEL UNIVERSITY
B.C.A. (3rd Semester) (CBCS) Examination 2017
Thursday, November 16, 2017
02:00 pm to 05:00 pm
US03CBCA03 || ADVANCED DATA AND FILE STRUCTURE

Marks: 70

Q:1

Select an appropriate answer for the following.

[10]

1. _____ means a link between parent and its child.
(a) Branch Degree (b) Height (c) Leaf (d) Degree
2. An array is a _____ data structure.
(a) Heterogeneous (b) Non- Linear (c) Unordered (d) Homogeneous
3. If the range of index varies from L _____ U then size of the array is _____.
(a) $U / L - 1$ (b) $U - L + 1$ (c) $L - U + 1$ (d) $L / U - 1$
4. A graph (or digraph) is termed as _____ if all the edges in it are labeled with some weights.
(a) Label graph (b) Line graph (c) Weighted graph (d) Double graph
5. A node whose outdegree is 0 is called _____.
(a) Sink node (b) Source node (c) Self loop (d) Single node.
6. Maximum number of nodes possible in a binary tree of height h is _____.
(a) 2^{h+1} (b) 2^{h-1} (c) $2^h + 1$ (d) $2^h - 1$
7. The process of finding the data from its data structure is called _____.
(a) Sorting (b) Searching (c) Deletion (d) None of these
8. _____ technique requires an ordered table to search a particular record in the table.
(a) Sequential search (b) Sorting (c) Binary search (d) None of these
9. The lowest level of index is _____.
(a) Track index (b) Prime index (c) Index area (d) Master index
10. Record is also known as group or _____.
(a) Item (b) Segment (c) Entity (d) None of these

Q:2 Answer the following questions. (Attempt any ten) [20]

1. Write the formula for address calculation of 1-D array element and explain it.
2. Define root and leaf of a tree.
3. List 2 applications of an array.
4. What is loop and cycle of a Graph?
5. Draw the Binary Tree for $(A-B)+c*(E/F)$.
6. Define Directed and Undirected Graph.
7. List the applications of sorting.
8. Define Sequential Search.
9. List the applications of Searching.
10. What do you mean by Transaction? Which types of transactions are performed on the file?
11. Define: File, Database.
12. Write down the syntax and purpose of open statement for Input mode.

Q:3 A. Define array. Explain 1-D array with declaration and initialization. [06]
B. Explain Sparse Matrix in detail. [04]

OR

Q:3 A. List the representation of 2-D array in the memory. [06]
B. Explain applications of tree. [04]

Q:4 A. Explain the representation of Binary tree. [06]
B. Draw the binary tree for following expressions: [04]

Inorder	D	B	H	E	A	I	F	J	C	G
Preorder	A	B	D	E	H	C	F	I	J	G

OR

Q:4 A. Explain deletion of a node from binary tree (all 4 conditions) with example. [06]
B. What are the types of traversal of Binary tree? Explain any two with an example. [04]

Q:5 What is searching? List and explain searching techniques with algorithms. [10]

OR

Q:5 What is sorting? List sorting techniques and explain any one of them with algorithm. [10]

Q:6 A. Write a short note on Multiple buffering. [05]
B. Write a detail note on processing of Direct file. [05]

OR

Q:6 A. Explain the structure of index sequential file supported by IBM. [05]
B. List and explain different types of record layout supported by sequential file. [05]

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[50 & A-29]

SARDAR PATEL UNIVERSITY

SYBCA Third Semester EXAMINATION CBCS

17/11/2017 (Friday)

Introduction to Microprocessors- US03EBCA01

Time: 2.00 pm to 4.00 pm

Total Marks: 70

Q.1 Select most appropriate single answer:

[10]

1. An assembler translates the assembly language _____ to the binary codes.
(A) Program (B) mnemonics (C) Code (D) None of these
2. Which of these is not a control flag?
(A) TF (B) IF (C) DF (D) AF
3. AAA stands for _____.
(A) Adjust for Addition (B) Adjust After Addition
(C) ASCII Adjust for Addition (D) None of these
4. DIV stands for _____.
(A) Division (B) Signed Division
(C) Unsigned Division (D) None of these
5. NOT stands for _____.
(A) Negative (B) Nothing
(C) Invert all Byte (D) Invert each Bit
6. ROR stands for Rotate _____ of operand Right.
(A) All Bytes (B) Each Bytes
(C) All Bits (D) Each Bits
7. An END directive ends the _____.
(A) segment (B) program (C) procedure (D) None of these
8. The ASSUME directive is used to tell the assembler the name of the _____ segment it should use for a specific segment.
(A) code (B) Logical (C) data (D) stack
9. The full form of DB directive is _____.
(A) Data Byte (B) Define Bits
(C) Define Byte (D) None of these
10. AND – AND corresponding _____ operands.
(A) Bits of two (B) Bytes of two
(C) Words of two (D) All of these

Q.2 Write Answers in short. Attempt Any Ten.

[20]

1. Define: Decoder and its function in EU.
2. List all conditional flags of 8086 microprocessor.
3. Describe Stack pointer registers.
4. Explain DEC instruction in detail.
5. Explain NOT instruction with example.
6. Explain OR instruction with example.
7. Describe below code.
MOV CL, 02H
ROL AL, CL
8. Explain JMP instruction.
9. Explain SHL instruction.
10. Draw structure of a typical assembly program.
11. Explain END directive.
12. Explain ASSUME directive.

(P.T.O.)

Q.3 Draw the diagram of 8086 internal architecture Also explain Flag Register and General Purpose Registers of 8086 Architecture. [10]

OR

Q.3
[A] Explain Instruction Pointer in detail. [5]

[B] What is an Assembler? Explain the concept of assembler. [5]

Q.4
[A] Explain MOV instruction by taking appropriate examples. [5]

[B] Write a short note on AND instruction. [5]

OR

Q.4
[A] Explain SUB instruction by taking appropriate example. [5]

[B] Write a short note on CMP instruction. [5]

Q.5
[A] Explain SHL instruction with example. [5]

[B] Explain JUMP instruction [5]

OR

Q.5
[A] Explain ROR instruction with example. [5]

[B] Explain LOOPZ instruction with example. [5]

Q.6
[A] Which are the Looping structures? Explain any one in detail. [5]

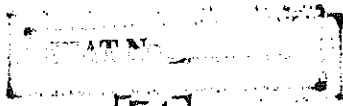
[B] Explain Assembler directives: ASSUME, DW and LABEL. [5]

OR

Q.6
[A] Write a program for Multiplication of two numbers without using MUL instruction. [5]

[B] Explain IF-THEN-ELSE structure by taking appropriate example. [5]

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SARDAR PATEL UNIVERSITY

S.Y.B.C.A. (Semester-III) EXAMINATION November- 2017

US03EBCA02 : Introduction to Artificial Intelligence

Date: 17/11/2017

Time: 02:00 to 04:00

Total Marks : 70

Q.1 Multiple choice questions: [10]

1. Medical diagnosis is a _____
A. Mundane task B. Formal task C. Expert task D. None of these
2. _____ is considered to the first AI program.
A. The Logic Theorist B. DENDRAL
C. MYCIN D. ELIZA
3. Inferring facts from existing data is also known as _____
A. Reasoning B. Retrieving
C. Learning D. Acquisition
4. In _____, each rule contains two confidence estimates.
A. MYCIN B. DENDRAL C. R1 D. PROSPECTOR
5. _____ use symbolic representations for knowledge.
A. Expert system B. Expert shell
C. Inference engine D. Knowledge base
6. Which of the following will find the best goal state?
A. Best-first search B. Depth-first search
C. Bidirectional search D. Breadth-first search
7. Predicates are also known as _____
A. Functions B. First-order
C. Atoms D. Heuristic
8. The terms Analog signals, Real time, Sensors and special hardware are used for ____
A. Computerised gaming B. Robots
C. Language translators D. None of these
9. A _____ can be regarded as a label applied to a linguistic concept which has no precise boundary
A. Fuzzy Logic B. Fuzzy set C. Crisp set D. None of these
10. The conventional machine uses _____
A. Fuzzy Logic B. Fuzzy set C. Crisp set D. None of these

(P.T.O.)

- Q.2 Write short answer of any ten. [20]
1. What is ELIZA?
 2. List the events that took place in 1956
 3. List the Task domains of AI
 4. State the stages of knowledge acquisition
 5. What is a Knowledge base?
 6. What is a User interface?
 7. What is interactive deepening depth first search
 8. State the connectives of FOPL
 9. What is Depth-first search
 10. State any two problems with Robots.
 11. What is Fuzzy logic
 12. State any 2 reasons why game playing was appealing for AI researchers

- Q.3(a) Explain history of AI in brief. [5]
(b) Write a note on AI Problem. [5]

OR

- Q.3(a) What is AI? Explain in Brief. [5]
(b) Write a note on the underlying assumption of AI problem. [5]

- Q.4(a) Write a note on Knowledge acquisition. [5]
(b) Write a note on the characteristic features of an expert system. [5]

OR

- Q.4(a) Write a note on knowledge representation. [5]
(b) What is an Expert shell? Write a note on Expert shell. [5]

- Q.5 Write a note on predicate logic. [10]

OR

- Q.5 Explain following: [10]
1. depth first search 2. breadth first search 3. depth limited search
4. interactive deepening depth first search 5. bidirectional search.

- Q.6(a) Write a note on Fuzzy logic. [6]
(b) Write a note on Game playing. [4]

OR

- Q.6(a) Write a note on crisp sets. [6]
(b) Write a note on Robotics. [4]

— X —

[105/AB8]

No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY
BCA EXAMINATION, III SEM

Date : 13th NOV 2017, Monday

Time : 02:00pm To 05:00pm

Session : Evening
Course No : US03FBCA01

Sub: Financial and Accounting Management
Total marks : 70

Q - 1 Multiple Choice Question

[10]

- i) The amount which is not recovered from debtors is known as _____
a) Solvent b) Discount c) income d) Bad debts
- ii) _____ discount is not recorded in the book of accounts.
a) Debtors b) Cash c) Trade d) Bank
- iii) 'Posting' the transactions means:
a) Entering items in a cash book
b) Making the first entry of a double entry transaction
c) Making the entry into the ledger from journal.
d) Something other than the above
- iv) Sales invoices are first entered in :
a) The Sales Account b) The Sales Book
c) The Cash Book d) The Purchase Book
- v) All direct expenses are shown in the _____
a) Profit & Loss A/c b) Trading A/cc c) Balance Sheet d) None
- vi) The _____ will be Add to the capital in the Balance sheet
a) Net Loss b) Net Profit c) Gross Loss d) Gross Profit
- vii) Which is not a Finance Manager's Role?
a) Raising of Funds b) Understanding capital market
c) Sales d) Profit Planning
- viii) Financial management is concerned with _____ of the firm's financial resources
a) Production b) Marketing c) Planning and controlling d) None
- ix) _____ refers to use of fixed cost in the operation of a firm.
a) Operating leverage b) Financial leverage c) Combine leverage d) None
- x) P/V Graph has two parts, which separated by
a) Sales Line. b) Profit Line c) BEP d) Loss area.

Q - 2 Short Answer **attempt any ten (Each carry 2 marks)**

[20]

- i) List types of accounts and explain its rules for debit and credit.
- ii) What do you mean by Book Keeping?
- iii) What is posting? and write purpose of ledger.
- iv) Define depreciation and explain any one.
- v) Define sales book, purchase book with its rules
- vi) Write adjustment entries can be made in final accounts with respect to interest on drawing.
- vii) Discuss the role of CFO.
- viii) List the important finance decisions or functions.
- ix) List out the uses of ratio analysis. Explain any one in detail
- x) List out all types of ratio analysis with its sub types.
- xi) Explain per unit and total Variable cost by graph.
- xii) Define cash breakeven point and write equation of it.

(I)

- Q-3 a) What is Trial balance? Write purpose, advantages and disadvantages of it? Also draw format of trial balance [06]
 b) Explain the terms Creditors and Debtors with example. [04]

OR

- Q-3 a) Journalise the following transactions [05]
 i) 01/04/2015 A business started with cash Rs. 8,000, receivables (Debtors) Rs. 2,400, Goods Rs. 3,000, Payables (Debts) Rs. 800 and a loan of Rs. 2,000 from Neha.
 ii) 10/04/2015 Purchased goods from Nimesh on credit Rs. 200.
 iii) 24/04/2015 Sold goods to Ashish Rs. 400, Received cross cheque Rs. 375 as full settlement.
 iv) 30/04/2015 Goods of rs. 1000 sold at 10% T.D. & 2% C.D. to pulkit & received half amount in cash.
 b) Explain ledger with its format and example. [05]

- Q-4 Explain Profit & Loss account and Balance sheet along with purpose & format. [10]

OR

- Q-4 From the following balances extracted from the books of X & Co., prepare a trading and profit and loss account and balance sheet on 31st December, 1991. [10]

Particulars	Rs	Particulars	Rs
Stock on 1st January	11,000	Returns outwards	500
Bills receivables	4,500	Trade expenses	200
Purchases	39,000	Office fixtures	1,000
Wages	2,800	Cash in hand	500
Insurance	700	Cash at bank	4,750
Sundry debtors	30,000	Tent and taxes	1,100
Carriage inwards	800	Carriage outwards	1,450
Commission (Dr.)	800	Sales	60,000
Interest on capital	700	Bills payable	3,000
Stationary	450	Creditors	19,650
Returns inwards	1,300	Capital	17,900

- i) The stock on 31st December, 1991 was valued at Rs. 25,000,
 ii) Interest on capital 10%

- Q-5 a) Explain different finance functions. [06]
 b) Write a short note on uses of ratio analysis. [04]

OR

- Q-5 a) Describe financial goal and firm's objectives. [06]
 b) Explain Dividend and Liquidity Decision [04]

- Q-6 a) Explain any two main type of ratio analysis in detail. [06]
 b) Explain Limitations of CVP analysis. [04]

OR

- Q-6 a) Explain CVP analysis for a multi-product firm in detail. [06]
 b) Explain utility of CVP analysis. [04]

-X-
 (2)