[3-A]

SARDAR PATEL UNIVERSITY
S.Y.B.C.A. SEMESTER – IV (CBCS) EXAMINATIONS – 2017
US04CBCA01: RELATIONAL DATABASE MANAGEMENT SYSTEMS-II
Monday, 10th April, 2017

Time: 2.00 PM to 5.00 PM　　　　　　　　　　　　　　　　Max. Marks: 70

Q-1 Multiple Choice Questions.　　　　　　　　　　　　　　　　**[10]**

1. The process of normalization
   A. is automatic using a computer program.
   B. requires one to understand dependency between attributes.
   C. is manual and requires semantic information.
   D. is finding the key of a relation.

2. Which normal form identifies functional dependencies?
   A. 1-NF　　　　　　　　　　C. 3-NF
   B. 2-NF　　　　　　　　　　D. none of above

3. Which of the following is not an anomaly?
   A. INDEX　　　　　　　　　C. UPDATE
   B. INSERT　　　　　　　　　D. DELETE

4. In which control structure, no need to declare to memory variable?
   A. if　　　　　　　　　　　C. for
   B. while　　　　　　　　　　D. None of these

5. The _____ section is compulsory in PL/SQL block.
   A. exception　　　　　　　　C. declare
   B. begin　　　　　　　　　　D. None of these

6. _____ can be declared by user for the queries that return more than one row.
   A. Implicit Cursor　　　　　　C. User defined Procedures
   B. Explicit Cursor　　　　　　D. User defined Functions

7. Data stored in a cursor is known as _____.
   A. implicit cursor　　　　　　C. current data set
   B. Active data set　　　　　　D. none of these

8. In trigger, to specify correlation names, _____ key word is used.
   A. referencing　　　　　　　C. for each row
   B. when　　　　　　　　　　D. none of these

9. _____ type of parameter used to send values & get values from the stored procedures.
   A. IN　　　　　　　　　　　C. IN OUT
   B. OUT　　　　　　　　　　D. none of above

10. The error occurred during the compilation of procedure are stored in _____ table.
    A. dual　　　　　　　　　　C. user_constraint
    B. user_errors　　　　　　　D. user_procedure

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Q-2 Attempt any ten. [20]
1. Write disadvantages of Normalization.
2. Explain lossless join in brief.
3. Explain BCNF in brief.
4. Write disadvantages of SQL.
5. Differentiate between %type and %rowtype.
6. Define: Variable and Constant
7. Explain in brief: SQLCODE
8. Explain any two implicit cursor attributes with suitable example.
9. Explain NO_DATA_FOUND exception in brief.
10. Write advantages of PL/SQL Package.
11. What is Package? List part of package.
12. Explain WHEN clause used with row triggers in brief.

Q-3 What is Normalization? Explain 1st normal form, 2nd normal form and 3rd normal form with [10] example.

OR

Q-3 Explain consequences of poor database design. Also explain concept of functional [10] dependency in brief.

Q-4
(A) Explain simple loop and for loop with syntax and example. [6]
(B) Write note on: LIKE and IN comparison operators [4]

OR

Q-4
(A) Explain CASE statement with syntax and example. [6]
(B) Write note on: PL/SQL block structure. [4]

Q-5
(A) Explain declaration, open, fetch and close statements for an explicit cursor with proper [7] syntax, description and example.
(B) Explain cursor FOR loop in brief. [3]

OR

Q-5
(A) Explain Unnamed system exceptions and User defined exception with example. [7]
(B) Explain SELECT...INTO statement available in PL/SQL. [3]

Q-6
(A) Explain Function with syntax and example. [7]
(B) Explain advantages of Procedure / Function. [3]

OR

Q-6
(A) Explain Trigger with appropriate syntax and example. [7]
(B) Write syntax of Procedure. Differentiate between stored Procedure and stored Function. [3]

☺ ☺ ☺ ☺ ☺ **Good Luck** ☺ ☺ ☺ ☺ ☺

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[697A47]

SARDAR PATEL UNIVERSITY
B.C.A Semester – 4 (Reg. & NC)(CBCS)
Friday, Date: 7ᵗʰ April 2017
Session: Evening   Time: 02:00 P.M. to 5:00 P.M.
Subject Code: US04CBCA03
Subject Title : OPERATING SYSTEMS

Total Marks: 70

Q1.   Multiple Choice Questions. (Attempt all)   [10]

1. Which of the following is **NOT** a valid process state?
   A. New   C. Create
   B. Ready   D. Waiting

2. _____ scheduling algorithm gives minimal average waiting time.
   A. Round Robin   C. SJF
   B. Priority   D. FCFS

4. _____ scheduling algorithm gives minimum Page Faults.

   A. FIFO   C. LRU
   B. SJF   D. Optimal

5. In Best-fit memory allocation technique memory manager allocates _____.

   A. First hole that is big enough   C. Smallest hole that is big
      to store process   enough to store process
   B. Biggest hole that is big   D. Last hole that is big enough to
      enough to store process   store process

6. In Clock page replacement algorithm, replace the page with the value of
   R bit = _____.
   A. 0   C. 1
   B. i   D. v

7. Each process has a segment of code called _____ section.

   A. critical   C. important
   B. available   D. mutual

8. Which of the following is **NOT** the valid resource utilization state?

   A. Request   C. Process
   B. Use   D. Release

9. _____ buffer has fixed buffer size.
   A. UnBounded   C. Flexible
   B. Bounded   D. Fixed

10. Printer is an example of _____ resource.

    A. Physical   C. Logical
    B. Virtual   D. Critical

(PTO)

Q2. **Answer the following short questions (Attempt any TEN)** [20]

1. Draw the diagram of PCB.
2. What are Turnaround Time and Response Time?
3. What is Preemptive Scheduling ?
4. List different memory allocation techniques.
5. What is Belady's Anomaly?
6. Explain how to solve problem of External fragmentation.
7. Explain when does a Race condition arise?
8. Explain why is LINUX an open source?
9. Justify "Linux is a Secure Operating System".
10. Explain who command in brief.
11. Explain man command in brief.
12. Explain cp command with all its attributes.

Q3. Explain SJF scheduling algorithm in detail. [10]

OR

Q3. Explain Round-Robin scheduling algorithm with example. [10]

Q4.a. List out different page Replacement algorithms and Explain Optimal Page [06]
Replacement Algorithm in detail.

b. Define Page Fault. Explain page fault handling technique. [04]

OR

Q4.a. Explain FIFO page replacement algorithm with advantages. [06]

b. What is Fragmentation? List different types of Fragmentation. Explain any [04]
one in brief.

Q5.a. Explain the concept of Process Synchronization in detail. [05]

b. What is LINUX? Explain basic features of LINUX Operating System. [05]

OR

Q5.a. What do you mean by Deadlock? Explain all necessary conditions for [05]
occurrence of deadlock.

b. What is a Cooperative Process? Explain Producer-Consumer Problem in [05]
brief.

Q6.a. Explain if and case statement in LINUX. [05]

b. Explain following commands: i) pwd ii) rmdir [05]

OR

Q6.a. Explain grep command with at least four possible attributes and examples. [05]

b. Explain following commands: i) ls ii) mkdir [05]

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[44-8A20]

SARDAR PATEL UNIVESITY
S.Y.B.C.A. [IV SEMESTER] EXAMINATION
Saturday, 8th April, 2017
2:00 PM to 4:00 PM
E-COMMERCE: US04EBCA01

MARKS: 70

Q-1. **Multiple Choice Questions.** **[10]**

1. Online auction websites are the examples of _____ E-commerce category.
   [a] B2B
   [b] B2C
   [c] C2C
   [d] None of the above

2. Which of the following describes E-commerce?
   [a] Buying products from each other   [b] Buying services from each other
   [c] Selling services from each other   [d] All the above

3. B2B business model contains _____.
   [a] E-distributor
   [b] B2B Service provider
   [c] Service provider
   [d] Content provider

4. A set of planned activities designed to result in a profit in a marketplace is known
   as_____.
   [a] Business Plan   [b] Business Model
   [c] Business Process   [d] E-commerce business model

5. An ____ is an online shopping location where many stores are located.
   [a] E-mail/ online mall   [b] E-store
   [c] E-mail   [d] none of these

6. _____ are accessed by telephone or cell phone.
   [a] Voice portals   [b] Personal portals
   [c] PC based portals   [d] none of these

7. CRM stands for _____.
   [a] Customer Relationship Management   [b] Centric Reengineering Model
   [c] Customer Reference Management   [d] Collective Related Model

8. Which one the following is an example of online networking applications?
   [a] Chat Room & Discussion   [b] Data mining
   [c] Self service & Campaign Mgt. [d] Data reporting & Warehouse

9. _____ is an information gateway.
   [a] Portal   [b] Both a & c
   [c] Websites   [d] none of these

10. Today, most E-commerce is _____.
    [a] C2C   [b] B2B
    [c] B2C   [d] C2B

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(PTO)

Q-2 Attempts any Ten. [20]

1. What is B2B? Explain with example.
2. What is Electronic market?
3. Define E-Commerce business model.
4. List key ingredients of business model.
5. List the components of market place.
6. What are information portal?
7. List out customer facing problem.
8. Give the full form of : CRM, CIC, FSA, SFA
9. Define complain management.
10. Define Non-Business E-commerce with example.
11. Define Business plan.
12. List the various types of stores and malls.

Q-3 What is E-commerce? Write down classification of EC by Nature of transactions. [10]

OR

Q-3

A. Write down limitations of EC. [05]

B. Write down benefits of EC to Organization. [05]

Q-4

A. Explain 5 Primary Revenue Model with example. [05]

B. Explain B2C business model of "Portal" in brief. [05]

OR

Q-4 Explain M-Commerce business model with advantages and disadvantages. [10]

Q-5 Explain Impact of EC in manufacturing in brief. [10]

OR

Q-5

A. List the various marketplace components and explain any one of them. [05]
B. List Impacts of E-markets on business process and organization. Discuss one of them. [05]

Q-6 Explain benefits and limitation of CRM. [10]

OR

Q-6

A. Write a note on CRM Implementation issues. [05]
B. Explain Customer loyalty in brief. [05]

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[112₹A62] **SARDAR PATEL UNIVERSITY**
BCA Sem-IVEXAMINATION, 2017
2.00 pm to 5.00 pm
COMPUTER BASED NUMERICAL & STATISTICAL METHOD (US04FBCA01)
Date: 3/04/2017
Maximum Marks: 70

Q-1 Write the correct option in the answer book.   **[10]**
(1) If f(a)<0, f(b)>0 and if x_0 ∈ (a,b)is first approximation with $f(x_0)$< 0
then in bisection method_____
(a) x_0 is to be replaced by a   (b) ais to be replaced by c
(c) bis to be replaced by x_0 (d) x_0 is to be replaced by b

(2) The number 0.01850 x 10^3 has _____ significant digits
(a) 3   (b) 4   (c) 5   (d) 6

(3) All the formulae of interpolation are based on the fundamental
assumption that the given data can be expressed as a _____.
(a) Polynomial (b) Equation   (c) Algorithm (d) None of the above

(4) _____ Method is used if the estimated value lies towards the end
of the difference table.
(a) Divided difference (b) Forward difference
(c) Backward difference(d) None of the above

(5) y depends on x can be written as _____

(a)f(x) or y_x (b) f(xy) (c) f(yx) (d) none of the above

(6) _____ is called the backward difference operator.

(a) Δ (b) ∇(c) ∅(d) ∪

(7) We can find solution of system of linear, algebraic equations using
_____
(a) Newton-Raphson method   (b) Bisection method
(c) Gauss-Seidel method   (d) None of these

(8) The system of linear equation AX = B can be solved by matrix inversion
method only if_____
(a) A≠0   (b) |A|≠0   (c) |A| =0 (d) A is symmetric

(9) Forecasts _____
(a) become more accurate with longer time horizons
(b) are rarely perfect
(c) are more accurate for individual items than for groups of items
(d) all of the above

(10) Gradual, long-term movement in time-series data is called _____
(a) seasonal variation   (b) cycles
(c)trends(d) exponential variation

(PTo)

Q:2 Answer the following in short. (**Any Ten**) [20]

(1) Find the next iterative value of the root of using secant method, if the initial guesses are 3 and 4

(2) Define Relative error and absolute error

(3) Describe the stopping rules to obtain approximate solution for given non-linear equations.

(4) Use the secant method to obtain approximate solution of the equation $X^3-5x-3=0$. [Initial approx. 2 & 3]

(5) Define Interpolation.

(6) Explain Divided difference table.

(7) List the component of Time series.

(8) Solve the system of equation. $\begin{aligned} 2x+3y &= -10 \\ -x+4y &= -4 \end{aligned}$

(9) If x lies in the upper half of the table and if $x = x_k$, then what is $\dfrac{dy(x)}{dx}$ and $\dfrac{d^2y(x)}{dx^2}$?

(10) What is Time Series?

(11) What do you mean by Secular trend?

(12) What do you mean by random or irregular Variation?

Q-3

(a) Find the root of equation $x^3 - 4x - 9 = 0$ correct up to four decimal places using Bisection method. [05]

(b) Find the root of equation $x^3 - x^2 - 1 = 0$ correct up to four decimal places using Iterative method. (Take a=1.5) [05]

OR

Q-3

(c) Find the root of equation $x^3 - x - 1 = 0$ correct up to four decimal places using False Position method. [05]

(d) Find the root of equation $xe^x - 1 = 0$ correct up to four decimal places using Secant method. [05]

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Q-4

(a) Using Lagrange's method for interpolation find y for x=2   **[05]**

X	1	3	4	6
Y(x)	-3	9	30	130

(b) Using Newton's forward formula find y(2.05)   **[05]**

x	2.0	2.1	2.2	2.3
y(x)	11.0	12.261	13.648	15.167

Q-4   **OR**

(c) The following table gives the census population of a town for the years   **[10]**
1931 to 1971. Estimate the population for the year 1935 and year 1965
by using an appropriate interpolation formula.

Year	19931	1941	1951	1961	1971
Population	46	66	81	93	101

Q-5

(a) Solve the following system of equations usingGauss-Seidel method.   **[05]**
$$10x_1 + x_2 + 2x_3 = 44$$
$$2x_1 + 10x_2 + x_3 = 51$$
$$x_1 + 2x_2 + 10x_3 = 61$$

(b) Explain the Matrix Inversion method for solution of system of linear   **[05]**
equations.

Q-5   **OR**

(c) The distance (s) covered by a car in given time (t) is given in the followin   **[05]**
table:

Time(minutes)	10	12	14	16	18
Distance(km)	12	15	20	27	37

Determine the speed of the car at t=13 minutes.

(d) Use Backward difference formula to compute $\dfrac{dy}{dx}$ at x=7 and x=7.5,   **[05]**

x	3	4	5	6	7	8
y	4	6.6	7.7	9.0	10.5	12.2

From the following table:

3   (PTO)

Q.6 (a) Obtain seasonal indices using simple average method. **[06]**

Year	Q-1	Q-II	Q-III	Q-IV
1990	30	81	62	119
1991	33	104	86	171
1992	42	153	99	221
1993	56	172	129	235

(b) Obtain the trend from the time series given below by method of moving **[04]** average of 4 years

Year	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967
Y	50.0	36.5	43.0	44.5	38.9	38.1	32.6	41.7	41.1	33.8

OR

Q.6 (c) Obtain seasonal indices using ratio to moving average. **[06]**

Year	Q-1	Q-II	Q-III	Q-IV
1990	30	40	36	34
1991	34	52	50	44
1992	40	58	54	48
1993	54	76	68	62

(d) What is time series? List various components of time series and explain **[04]** one of them.

— X —

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