હેમચંદ્રાચાર્ય ઉત્તર ગુજરાત યુનિવર્સિટી

NAAC A (3.02) State University

પો.બો.નં.–૨૧, યુનિવર્સિટી રોડ, પાટણ (ઉ.ગુ.) ૩૮૪૨૬૫

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પરિપત્ર ક્રમાંક – ૧૨૮ / ૨૦૨૦

વિષય : મેનેજમેન્ટ સ્ટડીઝ વિદ્યાશાખા અંતર્ગત BCA Sem 3 & 4 **ના અભ્યાસક્રમ અંગે...**

આ યુનિવર્સિટી સંલગ્ન બી.સી.એ. કોલેજોના આચાર્યશ્રીઓને જણાવવાનું કે,મેનેજમેન્ટ સ્ટડીઝ વિદ્યાશાખા અંતર્ગત BCA Sem 3&4 નો સામેલ પરિશિષ્ટ મુજબનો નવો અભ્યાસક્રમ જૂન–૨૦૨૦ થી ક્રમશઃ અમલમાં આવે તે રીતે એકેડેમિક કાઉન્સિલવતી માન.કુલપતિશ્રીએ મંજૂર કરેલ છે. જેનો અમલ થવા સારૂ સબંધિતોને આથી આ સાથે મોકલવામાં આવે છે, જેનો ચુસ્તપણે અમલ થવા વિનંતી છે.

આ બાબતની સંબંધિત અધ્યાપકો તથા વિદ્યાર્થીઓને આપના સ્તરેથી જાણ કરવા વિનંતી છે.

નોંધ :– (૧) વિદ્યાર્થીઓની જરૂરીયાત માટે પરિપત્રની એક નકલ કોલેજના ગ્રંથાલયમાં મૂકવાની રહેશે.
(૨) આ અભ્યાસક્રમ / સ્કીમ યુનિવર્સિટીની વેબ સાઈટ www.ngu.ac.in પર પણ ઉપલબ્ધ કરાવવામાં આવનાર છે.

સહી/–
અધ્યક્ષ
કુલસચિવવતી

બિડાણ : ઉપર મુજબ

નં.–એ કે / અ× સ / ૧૫૫૭ / ૨૦૨૦
તારીખ : ૩૦ / ૦૭ / ૨૦૨૦

પ્રતિ,
૧. સંલગ્ન BCA કોલેજોના આચાર્યશ્રીઓ
૨. ડા.રાજેશ એમ.મહેતા (ચેરમેન–કોમ્પ્યુટર સાયંસ) આઈ.એન.એસ.બી., બી.સી.એ.કોલેજ, એસ.ટી.સ્ટેન્ડ પાસે, મુ. ઈડર,જિ.સાબરકાંઠા –૩૮૩ ૪૩૦
૩. ડા. નિશિથકુમાર એચ. ભટ્ટ (ડીનશ્રી મેનેજમેન્ટવિદ્યાશાખા),ડીપાર્ટમેન્ટ ઓફ એમ.બી.એ., હેમ. ઉ.ગુ. યુનિવર્સિટી, પાટણ.
૪. ઈનચાર્જ ઓફિસરશ્રી, સબસેન્ટર, ખેડબ્રહ્મા કેમ્પસ, મુ. વડાલી , જિ. સાબરકાંઠા. (હેમ.ઉત્તર ગુજરાત યુનિવર્સિટી, **પાટણ.)**
૫. પરીક્ષા નિયામકશ્રી, હેમચંદ્રાચાર્ય ઉત્તર ગુજરાત યુનિવર્સિટી, પાટણ. (પાંચ નકલ)
૬. ગ્રંથપાલશ્રી, હેમ.ઉત્તર ગુજરાત યુનિવર્સિટી, પાટણ. (વિદ્યાર્થીઓના ઉપયોગ સારૂ રેકર્ડ ફાઈલ માટે)
૭. અનુસ્નાતક પ્રશાખા (એકેડેમિક), હેમચંદ્રાચાર્ય ઉત્તર ગુજરાત યુનિવર્સિટી, **પાટણ**
૮. સીસ્ટમ એનાલીસ્ટ, કોમ્પ્યુટર(રીઝલ્ટ) સેન્ટર, હેમ.ઉ.ગુ. યુનિવર્સિટી,પાટણ તરફ પરિણામ માટે તથા વેબસાઈટ પર મૂકવા સારૂ.
૯. મુખ્ય હિસાબી અધિકારીશ્રી (મહેકમ), હેમચંદ્રાચાર્ય ઉત્તર ગુજરાત યુનિવર્સિટી, પાટણ તરફ–પરિપત્રની ફા ઈલ અર્થે
૧૦. સિલેકટ ફાઈલે– (૨ નકલ)

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

B.C.A. SEMESTER -III

BCA-301: Data Structure

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
4	----	40	4	30	-----	70	----	----	100

Unit: 1 **[18 Marks]**

Introduction to Searching and Sorting: Sorting-Notation and Concepts, Time and Space Complexity, Asymptotic behavior, **Sorting:** Insertion Sort, Selection Sort, Bubble Sort, Merge Sort, Heap Sort, Quick Sort, Shell Sort, Radix Sort, Summary of Sorting.

Searching: Searching-Sequential & Binary Searching. **Hashing:** Hash Table Methods-Introduction, Hashing Functions, and Collision-Resolution Techniques.

Unit: 2 **[17 Marks]**

Introduction to Data Structures: Types of Data Structures, Linear & non-linear Data Structures

Linear Data Structures with Applications: Storage Structures for arrays, stack definitions & concepts, operations on stacks, applications of Stacks-Recursion, Polish Expressions and their compilation. Queue-Representation of queue, types of queue. Operations and applications of queue.

Unit: 3 **[18 Marks]**

Linked List Data Structures with Applications: linked list definition and their linked storage representation, linked list-linked linear list-operation on linear list using singly linked storage structures, circularly linked list, doubly linked linear list, sorted linked list, applications of linked linear list-polynomial manipulation.

Unit: 4 **[17 Marks]**

Non Linear Data Structures with Applications: Trees-Definitions and concepts, operations on Binary Trees, Traversal Algorithms, Storage Representation and Manipulation of Binary Trees-Linked & Threaded, Conversion Of General Trees To Binary Trees, Sequential and other representations of trees, applications of Trees. Graphs-Matrix representation of graphs, Breadth First Search, Depth First Search, Minimal Spanning Trees.

Text & Reference Books:

- An Introduction to Data Structure with Applications 2nd Edition,
  - Tremblay J. and Sorenson P., McGraw-Hill International Edition.
- Introduction to Data Structure, Bhagat singh and Thomas Naps: Tata McGraw-Hill Publishing Co. Ltd., 1985.
- Data Structures: Theory and Problems, K. K. PATEL & Kaushar Ghanchi,
  - Books India Publication, Ahmedabad.
- Tanenbaum, Data Structures using C & C++, PHI
- Robert L. Kruse, Data Structures and Program Design in C, PHI
- Mary E.S. Loomis, Data Management and file processing, PHI

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

B.C.A. SEMESTER -III

BCA-301: Data Structure

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
4	-----	40	4	30	-----	70	----	----	100

Question Paper Scheme:
University Examination Duration: 2.5 Hours.

Q.1 - Unit-I (18 Marks)
Short Questions [6]
Descriptive / Long questions. [12]

Q.2 - Unit-II (17 Marks)
Short Questions [5]
Descriptive/ Long questions. [12]

Q.3 - Unit-III (18 Marks)
Short Questions [6]
Descriptive/ Long questions. [12]

Q.4 - Unit-IV (17 Marks)
Short Questions [5]
Descriptive/ Long questions. [12]

Note: Options should be given in short questions.

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

B.C.A. SEMESTER -III

BCA-302: Advance Database Management System

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
4	-----	40	4	30	-----	70	----	----	100

Unit – I	**[18 Marks]**
Transaction Management ACID properties of transaction **Database concurrency** Three problems of concurrency Locking Problems of concurrency revisited Concept of Deadlocks **Database recovery** System Recovery Media Recovery	
Unit – II	**[17 Marks]**
Introduction to SQL SQL Components DDL DML DCL TCL SQL constructs (SELECT… FROM…WHERE...GROUP BY…. HAVING….ORDER BY…) **SQL Functions** String Functions Conversion Functions Numeric Functions Aggregate Functions **Set Operators** Union Intersect Minus **Nested queries/ Sub Queries** **Correlated nested Queries** **Joins** Inner Join/ Simple Join Outer Join **JOINs based on Operators** Equi Join Non- Equi Join **Integrity constraints and its types(Domain, Entity, Referential)**	

Unit – III	**[18 Marks]**
PL\SQL-Introduction Data types Syntax Block Structures Conditional Control in PL\SQL Loops in PL/SQL **Cursors** Explicit Implicit **Error Handling in PL\SQL**	
Unit – IV	**[17 Marks]**
Database Objects View Procedure Function Trigger Sequence	

Text & Reference Books:

1. Introduction to Database System by C. J. Date - Pearson Education
2. SQL, PL/SQL by Evan Bayross - BPB Publication

Question Paper Scheme:
University Examination Duration: 2.5 Hours.

Q.1 - Unit-I (18 Marks)
Short Questions [6]
Descriptive / Long questions. [12]

Q.2 - Unit-II (17 Marks)
Short Questions [5]
Descriptive/ Long questions. [12]

Q.3 - Unit-III (18 Marks)
Short Questions [6]
Descriptive/ Long questions. [12]

Q.4 - Unit-IV (17 Marks)
Short Questions [5]
Descriptive/ Long questions. [12]

Note: Options should be given in short questions.

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

B.C.A. SEMESTER -III

BCA-303: Operating System

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
4	-----	40	4	30	-----	70	----	----	100

Unit-1 [18 Marks]

Operating System Overview: Introduction of Operating System, Types of Operating System, Components of Operating System, Services of Operating System, **Additional Concept:** Buffering, Spooling, caching

Unit-2 [17 Marks]

Process Management: Introduction of Process, Process States, Process Control Block (PCB), Scheduling Queue. **Schedulers**: Long-term schedulers, Medium-term schedulers, Short-term schedulers. **Process Scheduling Algorithms:** FCFS, SJF and Round-Robin, **Thread, Deadlock, Measuring Performance of Computer System:** Throughput, Turnaround time, Response time, Waiting Time, CPU burst.

Unit-3 [18 Marks]

Memory Management: Static memory allocation, Dynamic memory allocation**, Virtual Memory-** Paging, Demand Paging, Page replacement, Fragmentation & Defragmentation

I/O Management: Program controlled I/O and Interrupt Driven I/O

Unit-4 [17 Marks]

File management: File manager, Access method, Directory structure

UNIX Overview: Features of Unix, Kernel, **Basic Commands**: Man, pwd , cd , ls , mkdir , rmdir, cp , cat , more , mv , rm , chmod , diff , grep , wc , Wildcards , **Process Management Commands**: Ps, Kill, Nice, Sleep, Batch, At

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

B.C.A. SEMESTER -III

BCA-303: Operating System

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
4	-----	40	4	30	-----	70	----	----	100

Text & Reference Books:

- PHI
- TMH

Question Paper Scheme:

University Examination Duration: 2.5 Hours.

Q.1 - Unit-I (18 Marks)
Short Questions [6]
Descriptive / Long questions. [12]

Q.2 - Unit-II (17 Marks)
Short Questions [5]
Descriptive/ Long questions. [12]

Q.3 - Unit-III (18 Marks)
Short Questions [6]
Descriptive/ Long questions. [12]

Q.4 - Unit-IV (17 Marks)
Short Questions [5]
Descriptive/ Long questions. [12]

Note: Options should be given in short questions.

HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN

B.C.A. Semester – III
BCA-304 : Computer Network

Teaching Scheme (Per week)		Teaching Scheme (Per semester)		Examination Scheme					
				INT		EXT		TOTAL	
Th. (hours)	Pr. (hours)	Total Hours	Credit	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)	Th. (marks)	Pr. (marks)
4	--	40	4	30	--	70	--	100	--

UNIT- I	**Basic of Computer Networks:-**	**18**
	- Definitions of Network and Computer Network	
	- Advantages and disadvantages of computer networking	
	- Uses of Computer Network :- Business Application, Home Application, Mobile Users	
	components of a data communication network:-	
	- Data,Sender,Receiver,Transmission medium, Protocol	
	- Types of Networks :- LAN ,MAN , WAN	
	Network Topology:-	
	- Star, Ring, Bus, Tree, Complete, Irregular, Hybrid topologies with advantages and disadvantages	
	Reference Models:-	
	- The OSI Reference Model	
	- The TCP/IP reference model.	
	Telephone System:-	
	- History of Telephone System	
	- Structure of Telephone System	
	- The Local Loop	
	- Transmission Impairment(Problem)	
	Multiplexing:-	
	- Frequency Division Multiplexing (FDM)	
	- Time Division Multiplexing (TDM)	
	- Wavelength Division Multiplexing (WDM)	
	- Difference :-FDM, TDM	
	Switching:-	
	- Circuit Switching	
	- Packet Switching	
	- Message Switching	
	- Difference:- Circuit Switching & Packet Switching	
UNIT- II	**Transmission Media:-**	**17**
	- Definition of Computer Communication and Transmission media	
	- **Guided Media: -** Twisted-pair cable, Coaxial cable, Fiber cable, Fiber optics principles, Transmission of light through Fiber, Difference of Fiber optics and copper wire.	
	- **Unguided Media OR Wireless Transmission: -** The electromagnetic	

	spectrum, Radio Transmission, Microwave Transmission, Infrared and Millimeter Waves.	
UNIT- III	**Common network connectivity devices:-**	**18**
	- **Routers :-** Adaptive router and non-adaptive router	
	- **Bridges :-** Transparent bridge ,Spanning tree bridge, Remote bridge, Multiport bridge	
	- **HUBs :-**Passive HUB , Active Hub and Intelligent Hub	
	- **Switches :-** Simple switch, Folded switch ,Cross-bar switch	
	- **Gateways**	
	- **Repeater**	
	Data Link Protocols:-	
	- **Asynchronous Protocol:-** Xmodem,Ymodem,Zmodem,BLAST,Kermit	
	- **Synchronous Protocols:-** Character-oriented and Bit-Oriented protocol	
UNIT- IV	**Network Layer in the Internet:-**	**17**
	- **IP Protocol :-** IP Version 4, IP Version 6,IP Addresses , IP Address class , Network and Host Addressing ,Subnet ,Super netting	
	- **Internet Control Protocols :-** ICMP , ARP, RARP,BOOTP and DHCP	
	- **Internet Transport Protocol :- UDP and TCP**	

Text & Reference Books:

1. **Computer Networks**, A. S. Tanenbaum. PHI
2. **Data Communications and Networking**, Behrous A. Forouzan. TMH

Question Paper Scheme:
University Examination Duration: 2.5 Hours.

Q.1 - Unit-I (18 Marks)
Short Questions [6]
Descriptive / Long questions. [12]

Q.2 - Unit-II (17 Marks)
Short Questions [5]
Descriptive/ Long questions. [12]

Q.3 - Unit-III (18 Marks)
Short Questions [6]
Descriptive/ Long questions. [12]

Q.4 - Unit-IV (17 Marks)
Short Questions [5]
Descriptive/ Long questions. [12]

Note: Options should be given in short questions.

HEMCHANDRCHARYA NORTH GUJARAT UNIVERSITY PATAN
B.C.A. SEMESTER -III
BCA-305: Data Structure (PRACTICAL BASED ON BCA - 301) [Practical List]

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
----	4	40	4	----	30	----	70	----	100

1. Write a c program for linear search which find an element in an unsorted list.
2. Write a c program for binary search which find the location of a given element in a list.
3. Write a c program for sorting using bubble sort method.
4. Write a c program for sorting using quick sort. (Partition exchange sort) method.
5. Write a c program for sorting using straight selection sort.
6. Write a c program for sorting using insertion sort.
7. Write a c program for sorting using shell-sort method.
8. Write a c program for sorting using merge sort method.
9. Write a c program for sorting using radix sort method.
10. Write a c program for implementing of stack and its operation.
11. Write a c program which convert infix string to postfix string.
12. Write a c program which evaluates a postfix string.
13. Write a c program for implementing a simple queue and its operation.
14. Write a c program for implementing a double ended queue and its operation.
15. Write a c program for implementing a circular queue and its operation.
16. Write a c program for implementing a Singly linked list and its operation.
17. Write a c program for implementing a Doubly linked list and its operation.
18. Write a c program to insert an element into Sorted linked list.
19. Write a c program for create a binary tree and its operation.
20. Write a c program for DFS and BFS technique.

Practical Exam Scheme:

Practical	Viva	Journal	Total
40 Marks	20 Marks	10 Marks	70 Marks

HEMCHANDRCHARYA NORTH GUJARAT UNIVERSITY PATAN
B.C.A. SEMESTER -III
BCA-306: Practical Based on BCA -302 (SQL)

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
----	4	40	4	----	30	----	70	----	100

(Practical List)

Create following Three Tables.

1. Salesman

SNUM	SNAME	CITY	COMMISSION(%)
1001	PIYUSH	LONDON	12
1002	NIRAJ	SURAT	13
1003	MITI	LONDON	11
1004	RAJESH	BARODA	15
1005	ANAND	NEW DELHI	10
1006	RAM	PATAN	10
1007	LAXMAN	BOMBAY	09

SNUM : A Unique number assign to each salesman.
SNAME : The name of salesman.
CITY : The location of salesman.
COMMISSION : The percentage of salesman commission on order.

2. Customer

CNUM	CNAME	CITY	RATING	SNUM
2001	HARDIK	LONDON	100	1001
2002	GITA	ROME	200	1003
2003	LAXIT	SURAT	200	1002
2004	GOVIND	BOMBAY	300	1002
2005	CHANDU	LONDON	100	1001
2006	CHAMPAK	SURAT	300	1007
2007	PRATIK	ROME	100	1004

HEMCHANDRCHARYA NORTH GUJARAT UNIVERSITY PATAN
B.C.A. SEMESTER -III
BCA-306: Practical Based on BCA -302 (SQL)

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
----	**4**	**40**	**4**	**----**	**30**	**----**	**70**	**----**	**100**

CNUM : A Unique number assign to each customer.
CNAME : The name of customer.
CITY : The location of customer.
RATING : A level of preference indicator given to this customer.
SNUM : A salesman number assign to this customer.

3. Order

ONUM	AMOUNT	ODATE	CNUM	SNUM
3001	18.69	10/03/99	2006	1007
3002	767.19	10/03/99	2001	1001
3003	1900.10	10/03/99	2007	1004
3004	5160.45	10/03/99	2003	1002
3005	1098.25	10/04/99	2006	1007
3006	1713.12	10/04/99	2002	1003
3007	75.75	10/05/99	2004	1002
3008	4723.00	10/05/99	2005	1001
3009	1309.95	10/05/99	2004	1002
3010	9898.87	10/06/99	2001	1001

HEMCHANDRCHARYA NORTH GUJARAT UNIVERSITY PATAN
B.C.A. SEMESTER -III
BCA-306: Practical Based on BCA -302 (SQL)

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
----	4	40	4	----	30	----	70	----	100

ONUM : A Unique number assign to each Order.
AMOUNT : Amount of order in Rs.
ODATE : The date of order.
CNUM : The number of customer making the order.
SNUM : The number of salesman credited with the sale.

Solve following request with the help of SQL query.

1	Produce the order no, amount and date of all orders.
2	Give all the information about all the customers with salesman number 1001.
3	Display the information in the sequence of city, sname, snum, and Commission.
4	List of snum of all salesmen with orders in order table without duplicates.
5	List of all orders for more than Rs. 1000.
6	List out names and cities of all salesmen in London with commission above 10%
7	List all customers excluding those with rating <= 100 or they are located in Rome.
8	List all order for more than Rs. 1000 except the orders of snum,1006 of 10/03/99
9	List all orders taken on 10th March, April and June 1999.
10	List all customers whose names begin with a letter 'C'.
11	List all customers whose names begins with letter 'A' to 'G'
12	List all orders with zero or NULL amount.
13	Find out the largest orders of salesman 1002 and 1007.
14	Calculate the Average and Sum of amount ordered.
15	Count the no. of salesmen currently having orders.
16	Find the largest order taken by each salesman on each date.
17	Find out each customer's smallest order.
18	Find out the customer in alphabetical order whose name begins with 'G'
19	Display the no. of order for each day in the following format. There are "X"(No. of Orders) Orders on "Y"(Date in dd-mon-yy).
20	Assume each salesperson has a 12% commission. Write a query on the order table that will Produce the Order number, salesman no and amount of commission for that order.
21	List all customers in descending order of rating.

22	Show the name of all customers with their salesman's name.
23	List all orders with the names of their customer and salesman.
24	List all orders by the customers not located in the same city as their salesman.
25	List all customers serviced by salesman with commission above 12%.
26	Find all pairs of customers having the same rating with out duplication.
27	List all customers located in cities where salesman Niraj has customers.
28	List all salesmen who are living in the same city without duplicate rows.
29	Produce the name and city of all the customers with the same rating as Hardik'.
30	Extract all orders of Miti.

HEMCHANDRCHARYA NORTH GUJARAT UNIVERSITY PATAN
B.C.A. SEMESTER -III
BCA-306: Practical Based on BCA -302 (SQL)

Teaching Scheme (per week)		Teaching Scheme (per semester)		Examination Scheme					
				Internal		External		Total	
Th. (Hours)	Pr. (Hours)	Total (Hours)	Credit	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)	Th. (Marks)	Pr. (Marks)
----	4	40	4	----	30	----	70	----	100

31	Find all orders of the salesman who services 'Hardik'
32	List all orders that are greater than the average of April 10, 1999
33	Count the no. of customers with the rating above than the average rating of 'Surat'.
34	Using correlated sub query find the name and number of all customer with rating equal to Maximum for their city.
35	Find all customers having rating greater than any customer in 'Rome'.
36	Find all the customers who have greater rating than every customer in 'Rome'.
37	Select all customers whose rating doesn't match with any rating customer of 'Surat'.
38	Create a union of two queries that shows the names, cities and ratings of all customers. Those with rating of >=200 should display 'HIGH RATING' and those with < 200 should Display 'LOW RATING'
39	Insert a row into salesmen table with the values snum is 1008 salesman name is Rakesh, City is unknown and commission is 14%.
40	Insert a row in to customer table with values London, Pratik a 2008 for the columns city, Name and number.
41	Create another table Londonstaff having same structure as salesman table.
42	Insert all the rows of salesmen table with city London in the London staff table.
43	Create another table Day totals with two attributes date and total and insert rows into this Table from order table.

44	Remove all orders from customer Chandu.
45	Increase the rating of all customers in Rome by 100.
46	Double the commission of all salesmen of London.
47	Delete the salesmen who produce the lowest order for each day.
48	Delete all customers with no current orders.
49	Write a command to add the item-name column to the order table.
50	Give the commands to create our sample tables (salesmen, customer, orders) with all the Necessary constraints like PRIMARY KEY, NOT NULL UNIQUE, FOREING KEY.
51	Create a view called Big orders which stores all orders larger than Rs.4000.
52	Create a view that shows all the customers who have the highest ratings.
53	Create a view that shows all the number of salesman in each city.
54	Create a view that shows the average and total orders for each salesmen after his name And number.
55	Create a view Show name that shows for each order the order no, amount, salesman name And the customer name.

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----	4	40	4	----	30	----	70	----	100

Practical Exam Scheme:

Practical	Viva	Journal	Total
40 Marks	20 Marks	10 Marks	70 Marks

Reference Books:

1. Introduction to Database System - C. J. Date (7th edition) Low Price Edition
2. SQL, PL/SQL - Evan Bayross (2nd edition) BPB