SRI VENKATESWARA UNIVERSITY:TIRUPATI
Programme: B.Com. Computer Applications (Major)
w.e.f. AY 2024-25

COURSE STRUCTURE

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
I	I	1	**Fundamental of Commerce**	**4**	**4**
		2	**Business Organisation**	**4**	**4**
	II	3	**Financial Accounting**	3	3
			Financial Accounting Practical Course	2	1
		4	Office Automation Tools	3	3
			Office Automation Tools Practical Course	2	1
II	III	5	**Advanced Accounting**	3	3
			Advanced Accounting Practical Course	2	1
		6	**Income Tax**	3	3
			Income Tax Practical Course	2	1
		7	E Commerce & Web designing	3	3
			E Commerce & Web designing Practical Course	2	1
		8	Digital Marketing	3	3
			Digital Marketing Practical Course	2	1
	IV	9	**Corporate Accounting**	3	3
			Corporate Accounting Practical Course	2	1
		10	**Cost & Management Accounting**	3	3
			Cost & Management Accounting Practical Course	2	1
		11	DBMS with Oracle	3	3
			DBMS with Oracle Practical Course	2	1
III	V	12	**Advanced Corporate Accounting (OR) Advertisement and Media Planning**	3	3
			Advanced Corporate Accounting (OR) Advertisement and Media Planning Practical Course	2	1

Year	Semester	Course	Title of the Course	No. of Hrs /Week	No. of Credits
		13	**Managerial Accounting (OR) GST Procedures and Practices**	3	3
			Managerial Accounting (OR) GST Procedures and Practices Practical Course	2	1
		14	**Business Analytics** (OR) Cyber Security	3	3
			Business Analytics (OR) Cyber Security Practical Course	2	1
		15	Mobile Applications Development (OR) Block Chain Technology	3	3
			Mobile Applications Development (OR) Block Chain Technology Practical Course	2	1
	VI		Semester Internship/Apprenticeship with 12 Credits		
IV	VII		Courses will be available in due course of time		
	VIII		Courses will be available in due course of time		

B.COM HONOURS
(COMPUTER APPLICATIONS)
II YEAR - IV SEMESTER

SRI VENKATESWARA UNIVERSITY

B.Com (Computer Applications) - W.E.F. 2024-25

SEMESTER – IV

Sl. No.	Course	Name of the Subject	Total Marks	Internal Exam	Sem. End Exam	Teaching Hours	Credits
1.	Skill Enhancement Course-1		50	---	50	2	2
2.	Multidisciplinary Course-1		50	---	50	2	2
3.	Major - Course 9	**Corporate Accounting**	100	25	75	3	3
4.	Major - Course 9	**Corporate Accounting Practical Course**	50	---	50	2	1
5.	Major - Course 10	**Cost & Management Accounting**	100	25	75	3	3
6.	Major - Course 10	**Cost & Management Accounting Practical Course**	50	---	50	2	1
7.	Major - Course 11	DBMS with Oracle	100	25	75	3	3
8.	Major - Course 11	DBMS with Oracle Practical Course	50	---	50	2	1
9.		Minor Paper - I	100	25	75	3	3
10.		Minor Paper - II	100	25	75	3	3
11.		Courses with Practicals	50	---	50	2	1

COURSE 9: CORPORATE ACCOUNTING

Theory   Credits: 4   3 (Theory) + 2 (Practical) hrs/week

Learning Objectives:

This course enables the student to develop awareness about corporate accounting in conformity with the provisions of company act.

Learning Outcomes:

At the end of the course, the student will able to;

Understand the Accounting treatment of Share Capital and aware of process of book building, Demonstrate the procedure for issue of bonus shares and buyback of shares, Comprehend the important provisions of Companies Act, 2013 and prepare final accounts of a company with Adjustments, Participate in the preparation of consolidated accounts for a corporate group Understand analysis of complex issues, formulation of well-reasoned arguments and reaching better conclusions and Communicate accounting policy choices with reference to relevant laws and accounting standards.

Unit 1: Accounting for Share Capital: Types of Share capital **-** Kinds of Shares – Types of Preference Shares – Issue of Shares at Par and at Premium - Forfeiture and Reissue of Shares (Problems only).

Unit 2: Issue of Debentures and Issue of Bonus Shares: Accounting Treatment for Debentures Issued at par / at a discount / at a premium and Repayable at Par and at a Premium -Issue of Bonus Shares - (Problems only).

Unit 3: Valuation of Goodwill: Need and Methods - Average Profit Method, Super Profits Method – Capitalization Method and Annuity Method (Problems only).

Unit 4: Valuation Shares: Need - Methods of Valuation - Net Assets Method, Yield Basis Method, Fair Value Method (Problems only).

Unit 5: Company Final Accounts: Provisions of the Companies Act, 2013 - Preparation of Final Accounts – Adjustments Relating to Preparation of Final Accounts – Profit and Loss Account and Balance Sheet – (Simple Problems only).

Activities:

- Problem Solving Exercises
- Collect and fill the share application form of a limited Company
- Collect Prospectus of a company and identify its salient features
- Collect annual report of a Company and List out its assets and Liabilities.

- Collect the annual reports of company and calculate the value of goodwill under different methods
- Power point presentations on types of shares and share capital
- Group Discussions on problems relating to topics covered by syllabus
- Students can gather the data relating to accounting set up of some local firms.
- Assignments including technical assignments like working with Audit Company for observation and submit to the teacher a Report.
- Individual project work on identified real time situations with respect to preparation of company final accounts
- On practical aspects dealt with by an Auditor.

Reference Books:

1. Corporate Accounting: T.S Reddy and Murthy, Margham Publications, Chennai.
2. Advanced Accounts: M C Shukla, T S Grewal and S C Gupta, S Chand Publications
3. Corporate Accounting: Haneef & Mukherji, Tata McGraw Hill Publications.
4. Corporate Accounting: RL Gupta & Radha Swami, Sultan Chand & sons
5. Corporate Accounting: P.C. Tulsian, S.Chand Publishers
6. Advanced Accountancy: Jain and Narang,,Kalyani Publishers
7. Advanced Accountancy: R.L. Gupta and M.Radhaswamy, S Chand.
8. Advanced Accountancy : Chakraborthy, Vikas Publishers
9. Corporate Accounting: S.N. Maheswari, S.K. Maheswari, Vikas Publishing House.
10. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand & Company
11. Corporate Accounting: Umamaheswara Rao, Kalyani Publishers
12. Corporate Accounting: Dr Chanda Srinivas, Seven Hills International Publishers

Model Question Paper 2024-25
With Effect from 2024-25
SEMESTER – IV
COURSE 9: CORPORATE ACCOUNTING

Time: 3 hrs   **Max Marks: 75**

Section A
Answer any Five of the following   **5 X 3=15 M**

1. X limited invited applications for 10,000 shares of ₹ 100 each payable, ₹ 25 on application, ₹ 35 on allotment and ₹ 40 on first and final call. Applications were received for all the shares. All money duly received. Give Journal entries.

2. Different types of Preference shares.

3. Different types of the Debentures.

4. Entries relating to issue of Bonus shares.

5. Different methods of valuation of Good will.

6. Different methods of valuation of shares.

7. Need for valuation of Good will.

8. Need for Valuation of Shares.

9. Proforma of preparation of company profit and loss account.

10. Write Adjusting entries
    1. Outstanding Salaries ₹ 3,000
    2. Prepaid insurance ₹ 2,000
    3. Commission received in advance ₹ 1,000

Section – B
Answer One Question from each unit   **5 X 12 = 60M**

11. A Ltd. Invited applications for 10,000 shares of ₹ 100 each at a discount of 5% payable as follows: On application ₹ 25, on allotment ₹ 34, on first & final call ₹ 36. Applications were received for 9,000 shares and all of these were accepted. All moneys due were received except the first and final call on 100 shares which were forfeited. Of the forfeited shares, 50 shares were reissued at the rate of ₹ 90 as fully paid. Pass necessary journal entries in the books of the company.

12. A holds 100 shares of ₹ 10 each, he has paid ₹ 1 on application
    B holds 200 shares of ₹ 10 each, he has paid ₹ 1 on application, ₹ 2 on allotment
    C holds 300 shares of ₹10each, he has paid ₹1on application, ₹ 2 on allotment, ₹ 3 on first call they all fail to pay the final call ₹ 4 each, immediately these shares were forfeited by the Board of Directors. The forfeited shares were re-issued at ₹ 11 each as fully paid. Pass necessary journal entries.

13. Timex Ltd., issued 1,000 8% debentures of ₹ 100 each. Give appropriate journal entries in the books of the company, if the debentures were issued as follows:

    (1) Issued at par, redeemable at par.
    (2) Issued at a discount of 5% repayable at par.
    (3) Issued at a premium of 10%, repayable at par.
    (4) Issued at par, redeemable at a premium of 10%.
    (5) Issued at a discount of 5%, repayable at a premium of 10%.

14. Titicorn Co. Ltd has resolved to utilize ₹ 5,00,000 out of reserve fund in declaration of Bonus to its shareholders. The bonus, however, is to be applied to the extent of ₹ 2,00,000 in payment of final
    call or ₹ 40 per share on 5,000 equity shares of ₹ 100 each and to the extent of ₹ 3,00,000 in the issue of 30,000 fully paid bonus equity shares of ₹ 100 each to the existing shareholders. Give the journal entries necessary to give effect to the above resolution.

15. Following details are available about the business of Sagar Ltd.
    (i)   Profits : 2019- ₹ 80,000: In 2020 – ₹1,00,000: In 2021 – ₹ 1,20,000;
    (ii)   Non-recurring income of ₹ 8,000; is included in the profits of 2020.
    (iii)   Profits of 2019 have been reduced by ₹ 12,000 because goods were destroyed by fire;
    (iv)   Goods have not been insured but it is thought prudent to insure them in future. The insurance premium is estimated at ₹ 800 per year.
    (v)   Reasonable remuneration of the proprietor of the business is ₹ 12,000 per year but it has not been taken into account for calculation of above mentioned profits;
    (vi)   Profits of 2021 include ₹ 10,000 income on investment. Calculate Good will on the basis of three years purchase of the average profit of last three years.

16. The following particulars area available in respect of the business carried on by a trader:
    (a) Profits earned: 2019 - ₹ 50,000; 2020 - ₹ 60,000; 2021 - ₹ 55,000
    (b) Normal rate of profit 10%
    (c) Capital employment ₹ 3,00,000
    (d) Present value of an annuity of one rupee for five years at 10% is ₹ 3.78.
    (e) The profits included non-recurring profits on an average basis of ₹ 4,000 out of which it was deemed that even Non-recurring profits had a tendency of appearing at the rate of ₹ 1,000 P.A.

    You are require to calculate Goodwill:

    (i)   As per Five years purchase of super profits
    (ii)   As per Capitalization of super profits
    (iii)   As per annuity method.

17. From the following information calculate the value per equity share:

	₹
5,000 8 % preference shares of ₹ 100 each	5,00,000
75,000 equity shares of ₹ 10 each, ₹ 8 per share paid up	6,00,000
Expected profits per year before tax	2,80,000
Rate of tax	50%
Transfer to general reserve every year	20% of the profit
Normal rate of earnings	10%

18. On 31-3-2022, the balance sheet of A Ltd. company disclosed the following position.

Liabilities	Amount	Assets	Amount
40,000, Equity shares of ₹ 10 each	4,00,000	Fixed assets	5,00,000
Reserve	90,000	Current Assets	2,00,000
Profit & Loss A/c	20,000	Good will	40,000
5% debentures	1,00,000		
Current Liabilities	1,30,000		
	7,40,000		7,40,000

1. On 31-3-2022 the fixed assets were independently valued ₹ 3,50,000 and Goodwill at ₹50,000
2. The net profits for 3 years were 2019-20 – ₹ 51,600; 2020-21 – ₹ 52,000; 2021-22 – ₹ 51,650 of which 20% was placed to reserve.
3. The proportion being considered a reasonable rate of return is 10% compute the value of share by
   a. Net assets Method.
   b. Yield Method.

19. Write a proforma of company Balance Sheet.

20. A Limited Company was registered with an authorised capital of ₹ 30,00,000 in equity shares of ₹ 10 each. The following is the list of balances extracted from its books on 31.12.2021.

	₹
Purchases	9,25,000
Wages	4,24,325
Manufacturing expenses	65,575
Salaries	70,000
Bad debts	10,550
Director's fees	31,125
Debenture interest paid	45,000
Preliminary expenses	25,000
Calls-in-arrears	37,500
Plant & Machinery	15,00,000
Premises	16,50,000
Interim dividend paid	1,87,500
Furniture and fittings	35,000
Sundry debtors	4,36,000
General expenses	84,175
Stock on 1.1.2021	3,75,000
Cash in hand	1,00,000
Goodwill	28,750
Cash at bank	1,99,500
Subscribed and fully called up capital	20,00,000
Profit & Loss A/c (Cr)	72,500
6% Debentures	15,00,000
Sundry creditors	2,90,000
Bills payable	1,67,500
Sales	20,75,000
General reserve	1,25,000

You are required to prepare statement of profit and loss for the year ended 31.12.2021 and the Balance Sheet as on that date, after making, the following adjustments.
Depreciate Plant and Machinery by 10%. Provide half years interest on debentures. Also write off preliminary expenses and make provision for bad and doubtful debts of ₹ 4,250 on sundry debtors. Stock on 31st December 2021 was ₹ 4,55,000.

SEMESTER – IV
COURSE 9: CORPORATE ACCOUNTING

Practical	Credits: 3	3 hrs/week

Lab Exercise:

- Preparation of Company Final Accounts, Creation of Company, Creation of Ledgers, Creation of Accounting Vouchers, Inventory Vouchers and display of Balance Sheet.

- Issue of Shares and Bonus Shares - Creation of Company, Creation of Ledgers, Creation of Accounting Vouchers, and display of concerned Ledgers using Accounting Software / Package or in MS Excel. .

- Issue of Debentures - Creation of Company, Creation of Ledgers, Creation of Accounting Vouchers, and display of concerned Ledgers using Accounting Software / Package or in MS Excel.

MODEL QUESTION PAPER – INTERNAL
SEMESTER – IV
COURSE 9: CORPORATE ACCOUNTING

Time : 1½ Hrs   Max Marks 50

Answer any Two of the following   **2 X 25 = 50 Marks**

1.

2.

3.

4.

5.

COURSE 10: COST AND MANAGEMENT ACCOUNTING

Theory   Credits: 4   3 (Theory) + 2 (Practical) hrs/week

Learning Objectives:

The aim of this course is to expose the students to the basic concepts and the tools used in cost accounting.

Learning Outcomes:

At the end of the course, the student will able to;

Understand various costing methods and management techniques, Apply Cost and Management accounting methods for both manufacturing and service industry, Prepare cost sheet, quotations, and tenders to organization for different works, Analyze cost-volume-profit techniques to determine optimal managerial decisions, Compare and contrast the financial statements of firms and interpret the results and Prepare analysis of various special decisions, using relevant management techniques.

Unit 1: Introduction: Elements of Cost - Preparation of Cost Sheet (including problems)

Unit 2: Material and Labour Cost: Techniques of Inventory Control - Stock levels– Valuation of Material Issues: FIFO - LIFO - Simple and Weighted Average Methods. Labour: Direct and Indirect Labour Cost – Methods of Payment of Wages- Incentive Schemes -Time Rate Method, Piece Rate Method, Halsey, Rowan Methods and Taylor Methods only (including problems)

Unit 3: Job Costing and Batch Costing: Definition and Features of Job Costing – Economic Batch Quantity (EBQ) – Preparation of Job Cost Sheet – Problems on Job Costing and Batch Costing (including problems)

Unit 4: Financial Statement Analysis and Interpretation: Financial Statements - Features, Limitations. Process of Financial Statement Analysis- Comparative Statement Analysis – Common Size Statement Analysis and Trend Analysis (including problems)

Unit 5: Marginal Costing: Meaning and Features of Marginal Costing – Contribution –Profit Volume Ratio- Break Even Point – Margin of Safety – Estimation of Profit and Estimation of Sales (including problems)

Activities:
- Debate on methods of payments of wages
- Seminars Problem Solving Exercises
- Seminar on need and importance of financial statement analysis
- Graphs showing the breakeven point analysis
- Identification of elements of cost in services sector by Visiting any service firm
- Cost estimation for the making of a proposed product
- Listing of industries located in your area and methods of costing adopted by them
- Collection of financial statements of any two organization for two years and prepare acommon Size Statements
- Collection of cost sheet and pro-forma of quotation
- Invited Lectures and presentations on related topics.
- Examinations (Scheduled and surprise tests)

Reference Books:
1. T.S. Reddy and Dr. Y. Hari Prasad Reddy, Cost Accounting Margam Publications.
2. S.P. Jain and K.L. Narang – Advanced Cost Accounting, Kalyani Publishers.
3. M.N. Arora – A test book of Cost Accounting, Vikas Publishing House Pvt. Ltd.
4. S.P. Iyengar – Cost Accounting, Sultan Chand & Sons.
5. Nigam & Sharma – Cost Accounting Principles and Applications, S.Chand& Sons.
6. S.N. Maheswari– Principles of Management Accounting, Sultan Chand & Sons.
7. I.M.Pandey – Management Accounting, Vikas Publishing House Pvt. Ltd.
8. Sharma & Shashi Gupta – Management Accounting, Kalyani Publishers.
9. Murthy & Guruswamy – Management Accounting, Tata McGraw Hill, New Delhi.
10. S.P. Gupta – Management Accounting, S. Chand Publishing, New Delhi.
11. Umamaheswara Rao and Ranganath, Cost Accounting, Kalyani Publishers.
12. Dr V Murali Krishna – Cost Accounting, Seven Hills International Publishers.

SEMESTER – IV
COURSE 10: COST AND MANAGEMENT ACCOUNTING

Time: 3 hrs   Max Marks: 75

Section A

Answer any Five of the following   5 X 3=15 M

1. Find Prime cost –
   Materials used ₹ 10,000; Direct wages ₹ 6,000;
   Direct expenses ₹ 3,000; Chargeable expenses ₹ 1,000

2. Elements of cost

3. Economic order quantity

4. Find out Total wages under Time rate and piece rate (with guaranteed) method.

   Time allowed 20 hours, Time taken 14 hours, Hourly rate of wages ₹ 5.

5. Compute the economic batch quantity for a company using batch costing with the

   following information:

Monthly demand for the component	-	2,000 units
Setting-up cost per batch	-	₹ 120
Annual rate of interest	-	6%
Cost of manufacturing per unit	-	₹ 6

6. Features of Job costing

7. Need for financial statement

8. Current Assets and Current Liabilities

9. Contribution

10. Find Breakeven point when sales are ₹ 10,000; Fixed cost ₹ 4,000; Variable cost ₹ 5000.

Section – B

Answer any Five Questions   5 X 12 = 60M

11. Mr. Gopal furnishes the following data relating to the manufacture of a standard product
    during the month of April 2023.

Raw material consumed	₹ 15,000
Direct labour charges	₹ 9,000
Machine hours worked	900
Machine hour rate	₹ 5
Administrative overheads	20% on works cost
Selling overheads	₹ 0.50 per unit
Units produced	17,100
Units sold	16,000 at ₹ 4 per unit

    You are require to prepare a cost sheet

12. From the following information prepare a cost sheet for the month of December 2023

		₹
Stock on hand – 1st Dec. 2023:	Raw materials	25,000
	Finished goods	17,300
Stock on hand – 31st Dec. 2023:	Raw materials	26,200
	Finished goods	15,700
Purchase of raw materials		21,900
Carriage on purchases		1,100
Work-in-progress 1.12.2023 at works cost		8,200
Work-in-progress 31.12.2023 at works cost		9,100
Sale of finished goods		72,300
Direct wages		17,200
Non productive wages		800
Direct expenses		1,200
Factory overheads		8,300
Administrative overheads		3,200
Selling and distributing overheads		4,200

13. Material 'A' is used as follows:

Maximum usage in a month	600 units
Minimum usage in a month	400 units
Average usage in a month	450 units

Lead time: Maximum 6 months, minimum 2 months.

Reorder quantity : 1,500 units

Maximum reorder period for emergency purchases – 1 month

Calculate   (a) Reorder level   (b) Maximum level
                   (c) Minimum level   (d) Average stock level
                   (e) Danger level

14. A worker takes 9 hours to complete a product on daily wages and 6 hours on a scheme of payment by results. His day rate is 75 paise an hour, a material cost of the product is ₹ 4 and the overheads are recovered at 150% of the total direct wages. Calculate the factory cost of the product under:

(a) Piece work plan

(b) Rowan plan

(c) Halsey plan

15. The information given below has been taken from the costing records of an engineering works in respect of job number 303.

Materials ₹ 4,010

Wages: Dept. A – 60 hours at ₹ 3 per hour

      Dept. B – 40 hours at ₹ 2 per hour

      Dept. C – 20 hours at ₹ 5 per hour

Overhead expenses for these three departments were estimated as follows:

Variable overheads: Dept. A - ₹ 5000 for 5000 labour hours

       Dept. B - ₹ 3000 for 1500 labour hours

       Dept. C - ₹ 2000 for 500 labour hours

Fixed overheads: Estimated at ₹ 20,000 for 10,000 normal working hours

You are requested to calculate the cost of job 303 and calculate the price to give a profit of 25% on selling price.

16. The following information relate to the manufacturing of component Z – 10 in a cost centre.

Cost of materials – 10 paise per component

Operator's wages - ₹ 1.00 per hour

Machine hour rate - ₹ 2.00

Setting up time of the machine – 2 hours and 30 minutes.

Manufacturing time – 12 minutes per component

Prepare cost sheet in columnar form showing both production and setting up costs –Total and per unit when a batch consists of (a) 10 components (b) 100 components (c) 1000 components.

17. The following are the income statements of X, Y, Z Co. Ltd for the years 2020 and 2021. Prepare common-size income statement for the two years.

Trading and Profit and Loss Account

Particulars	2020 ₹	2021 ₹	Particulars	2020 ₹	2021 ₹
To Cost of Sales	2,40,000	3,50,000	By Sales	4,00,000	5,00,000
" Gross Profit c/d	1,60,000	1,50,000			
	4,00,000	5,00,000		4,00,000	5,00,000
To Operating Expenses:			By Gross		
Administration	25,000	30,000	profit b/d	1,60,000	1,50,000
Selling	15,000	20,000	By Interest on		
Distribution	10,000	10,000	investments	20,000	50,000
To Non-operating expenses:					
Finance	20,000	20,000			
Goodwill written off	10,000	---			
To Net Profit	1,00,000	1,20,000			
	1,80,000	2,00,000		1,80,000	2,00,000

18. From the following balance sheet extracts, compute trend percentages and comment on the liquidity position of X Ltd. You may take 2016 as base year.

Particulars	2016 ₹	2017 ₹	2018 ₹	2019 ₹	2020 ₹	2021 ₹
Stock	1,50,000	1,70,000	1,90,000	2,30,000	2,20,000	2,00,000
Debtors	1,40,000	1,20,000	80,000	90,000	1,00,000	1,00,000
Cash	60,000	50,000	50,000	60,000	90,000	1,00,000
Current liabilities	3,00,000	3,20,000	3,00,000	2,80,000	2,40,000	2,00,000

19. From the particulars given below calculate:
   (a) Break even point.
   (b) Profit or loss when sales are ₹ 12,000 and
   (c) Sales required to earn a profit of ₹ 5,000

	Sales ₹	Profit/Loss (-) ₹
Period 1	10,000	-500
Period 2	14,000	1500

20. The statement of cost of a machine is as follows:

	₹
Materials	200
Labour	100
Variable expenses	50
Fixed expenses	75
Total cost	425
Profit	100
Selling price	525

The number of machines sold and made is 10,000
   (a) Find out the break even point
   (b) How many machines must be produced and sold if the price is reduced by ₹ 25 to realise the present amount of profit?

SEMESTER – IV
COURSE 10: COST AND MANAGEMENT ACCOUNTING

Practical	Credits: 1	2 hrs/week

Lab Exercise:

- Preparation of Cost Sheet, Preparation of FIFO   and LIFO Stores ledgers, usingAccounting Software / Package or in MS Excel.

- Computation of problems on Marginal Costing, BEP and BEP Chart in MS Excel.

- Preparation of Profit and Loss Account in Contribution, Calculation of BEP usingAccounting Software / Package or in MS Excel.

- Create Cost Centers; enable Godowns for Job Costing, Inventory control method usingAccounting Software / Package or in MS Excel.

- Calculation of Labour cost in MS Excel

- Financial statement analysis like Trend Analysis, Comparative statements and Commonsize statements with using Accounting Software / Package or in MS Excel.

COURSE 10: COST AND MANAGEMENT ACCOUNTING

Time : 1½ Hrs   Max Marks 50

Answer any Two of the following   2 X 25 = 50 Marks

1.

2.

3.

4.

5.

II Year IV SEMESTER
COURSE11:DATABASE MANAGEMENT SYSTEM WITH ORACLE

w.e.f. 2024-25

| Theory | Credits:3 | 3 hrs/week |

Course Objectives:
To familiarize with concepts of database design

Learning Outcomes: On successful completion of the course, students will be able to

1. Differentiate between database systems and file based systems
2. Design a database using ER model
3. Use relational model in database design
4. Use SQL commands for creating and manipulating data stored in databases.
5. Write PL/SQL programs to work with databases.

Unit 1: Overview of Database Systems: Introduction: Database system, Characteristics (Database Vs File System), Database Users, Advantages of Database systems, Database applications.

Data Models: Introduction; categories of data models, Schema, Instance and database state; Three schema architecture and data independence; Database system environment, Centralized and Client Server architecture for the DBMS.

> **Case Study**:
> - Describe the differences between Database systems and File based systems
> - Study about database models and their advantages and dis-advantages

Unit 2: Entity Relationship Model: Introduction, Entity Types, Entity Sets, Attributes, and Keys relationship types, relationship degree.

Relational Model: CODD Rules, Relational Model Concepts (concepts of domain, attribute, tuple, relation, Characteristics of a Relation), constraints (Domain, Key constraints, integrity constraints) and their importance, concept of keys (super key, candidate key, primary key, surrogate key, foreign key),

Normalization: Purpose of Normalization or schema refinement, concept of functional dependency, normal forms based on functional dependency(1NF, 2NF and 3 NF)

> **Case Study**:
> - Describe Relational model and normalization for database design

Unit 3: BASIC SQL: Database schema, data types, DDL operations (create, alter, drop, rename), DML operations (insert, delete, update), basic SQL querying (select and project) using where clause, arithmetic & logical operations, grouping, ordering.

> **Case Study**:
> - Examine issues in data storage and query processing using SQL.
> - Create, maintain and manipulate a relational database using SQL

Unit 4: SQL: Creating tables with relationship, implementation of key and integrity constraints, Nested queries/ sub queries, implementation of different types of joins, views, relational set operations, SQL functions (Date, Numeric, String, Conversion functions).

> **Case Study**:
> - Try to convert some sample data to information and show how it can you be used in decision making.

Unit 5: PL/SQL: Introduction, Structure of PL/SQL code, Data types and Operators, Control Structures, Cursors, Procedure, Function, Triggers.
.

Case Study:
- Outline the role of triggers.

<u>**Suggested Text Books**</u>

- Fundamentals of Database Systems, 6th Edition,   Ramez Elmasri, Shamkant B. Navathe
- Database Management Systems, 3rdEdition ,Raghurama Krishnan, Johannes Gehrke, TMH
- Database System Concepts,5thEdition ,Silberschatz, Korth, TMH

COURSE 11: DATABASE MANAGEMENT SYSTEM WITH ORACLE

Practical	Credits: 1	2 hrs/week

LIST OF EXPERIMENTS

SQL:

Cycle-I: Aim: The marketing company wishes to computerize its operations by using the following tables.

Table Name: Client Master

Description: Used to store client information

Column Name	Data Type	Size	Attribute
CLIENT_NO	Varchar2	6	Primary key
NAME	Varchar2	20	Not null
ADDRESS1	Varchar2	30	
ADDRESSS	Varchar2	30	
CITY	Varchar2	15	
PINCODE	Varchar2	8	
STATE	Varchar2	15	
BAL_DUE	Number	10,2	

Table Name: Product Master
Description: Used to store product information

Column Name	Data Type	Size	Attribute
PRODUCT_NO	Varchar2	6	Primary key
DESCRIPTION	Varchar2	15	Not null
PROFIT _PERCENT	Number	4,2	Not null
UNIT_MEASUE	Varchar2	10	
QTY_ON_ HAND	Number	8	
REORDER_LVL	Number	8	
SELL_PRICE	Number	8,2	Not null, cannot be 0
COST _PRICE	Number	8,2	Not null,cannot be 0

Table Name: Salesman master

Description: Used to store salesman information working for the company.

Column Name	Data Type	Size	Attribute
SALESMAN_NO	Varchar2	6	Primary key
SALESMAN_NAME	Varchar2	20	Not null
ADDRESS1	Varchar2	30	
ADDRESS2	Varchar2	30	
CITY	Varchar2	20	
PINCODE	Number	8	
STATE	Vachar2	20	
SAL_AMT	Number	8,2	Not null, cannotbe0
TGT_TO_GET	Number	6,2	Not null, cannotbe0
YTD_SALES	Number	6,2	Not null
REMARKS	Varchar2	20	

Table Name: SALES_ORDER
Description: Used to store client orders

Column Name	Data Type	Size	Attribute
ORDER_NO	Varchar2	6	Primary key
CLIENT_NO	Varchar2	6	Foreign Key
ORDER_DATE	Date		
DELY_ADDRESS	Varchar2	25	
SALESMAN_NO	Varchar2	6	Foreign Key
DELY_TYPE	Char	1	Delivery:part(p)/full(f)anddefault'F'
BILL_YN	Char	1	
DELY_DATE	Date		Can'tbe lessthanorderdate
ORDER_STATUS	Varchar2	10	Values("InProcess","Fulfilled", "Back Order", "Cancelled)

Table Name: SALES_ORDER_DETAILS

Description:Used to store client's order with details of each product ordered.

ColumnName	Data Type	Size	Attribute
ORDER_NO	Varchar2	6	Primary key references SALES_ORDER table
PRODUCT_NO	Varchar2	6	Foreign Key references SALES_ORDER_table
QTY_ ORDERED	Number	8	
QTY_ DISP	Number	8	
PRODUCT_RATE	Number	10,2	Foreign Key

Solve the following queries by using the above tables.
1. Retrieve the list of names, city, and the state of all the clients.
2. List all the clients who are located in 'Mumbai' or 'Bangalore'.
3. List the various products available from the product_mastertable.
4. Find the names of salesmen who have a salary equal to Rs.3000.
5. List the names o fall clients having 'a' as the second letter in their names.
6. List all clients whose Baldue is greater than value 1000.
7. List the clients who stay in a city whose first letter is 'M'.
8. List all information from the sales-order table for orders placed in the month of July.
9. List the products whose selling price is greater than 1000 and less than or equal to 3000.
10. Find the products whose selling price is greater than 1000 and also find the new selling price as the original selling price of 0.50.

Cycle-II Supplier
Aim: A manufacturing company deals with various parts and various suppliers supply these parts. It consists of three tables to record its entire information. Those are as follows.
Supplier (Supplier_No, Sname, City, status) Part(Part_no, pname, color, weight, city, cost)
Shipment (supplier No, Part_no, city) JX (project_no, project_name, city)
SPJX (Supplier no, part_no, project_no,city)
1. Get supplier numbers and status for suppliers in Chennai with status>20.
2. Get project names for projects supplied by supplier 'S'.
3. Get colors of parts supplied by supplier S'.
4. Get part numbers for parts supplied to any project in Mumbai
5. Find the id's of suppliers who supply a red or pink parts.

Cycle–III Employee Database
Aim: An enterprise wishes to maintain a database to automate its operations. Enterprise is divided into certain departments and each department consists of employees. The following two tables describe the automation schemas.
Emp(Empno, Ename, Job, Mgr, Hiredate, Sal, Comm, Deptno) Dept(Deptno, Dname, Loc)
1. List the details of employees who have joined before the end of September '81.

2. List the name of the employee and designation of the employee, who does not report to anybody.

3. List the name,salary and PF amount of all the employees(PF is calculated as10%of salary)

4. List the names of employees who are more than 2 years old in the organization.

5. Determine the number of employees, who are taking commission.

6. Update the employee salary by 20%,whose experience is greater than 12 years.

7. Determine the department does not contain any employees.

8. Create a view, which contains employee name and their manager names working in sales department.

9. Determine the employees, whose total salary is like the minimum salary of any department.

10. List the department numbers and number of employees in each department.

PL/SQL PROGRAMS

1. Write a PL/SQL program to check the given string is palindrome or not.

2. The HRD manager has decided to raise the employee salary by 15% write a PL/SQL block to accept the employee number and update the salary of that employee. Display appropriate messages based on the existence of the record in the Emp table.

3. Write a PL/SQL program to display the top 10 rows in the Emp table based on their job and salary.

4. Write a PL/SQL program to raise the employee salary by 10% for department number 30 people and also maintain the raised details in the raise table.

5. Create a procedure to update the salaries of Employees by 20%, for those who are not getting commission

6. Write a PL/SQL procedure to prepare an electricity bill by using following table.
Table used: Elect

Name	Null?	Type
MNNO	NOT NULL	NUMBER(3)
CNAME		VARCHAR2(20)
CUR_READ		NUMBER(5)
PREV_READ		NUMBER(5)
NO_ UNITS		NUMBER(5)
AMOUNT		NUMBER(8,2)
SER_TAX		NUMBER(8,2)
NET_AMT		NUMBER(9,2)

7. Create a trigger to avoid any transactions (insert, update, delete) on EMP table on Saturday & Sunday.

MODEL QUESTION PAPER
SRI VENKATESWARA UNIVERSITY::TIRUPATI

II Year IV SEMESTER
COURSE 11: Database Management System with
ORACLE (w.e.f. 2024-25)

Time :3Hrs   **Max Marks 75**

SECTION - A

Answer any Five of the following   **5 X 3= 15 Marks**
1. Short answer question from Unit-1
2. Short answer question from Unit-1
3. Short answer question from Unit-2
4. Short answer question from Unit-2
5. Short answer question from Unit-3
6. Short answer question from Unit-3
7. Short answer question from Unit-4
8. Short answer question from Unit-4
9. Short answer question from Unit-5
10. Short answer question from Unit-5

SECTION - B

Answer any Five of the following   **5 X 12= 60 Marks**
11. Long answer question from Unit-1
12. Long answer question from Unit-1
13. Long answer question from Unit-2
14. Long answer question from Unit-2
15. Long answer question from Unit-3
16. Long answer question from Unit-3
17. Long answer question from Unit-4
18. Long answer question from Unit-4
19. Long answer question from Unit-5
20. Long answer question from Unit-5

Note: **The question paper setter is requested to set question paper based on a model question paper and ensure coverage across all units equally**.