

**S.V. UNIVERSITY; TIRUPATI**  
**B.Com (CA)- SEMESTER – III**

Sl. No.	Course	Name of the subject	Total Marks	Mid. Sem. Exam	Sem. End Exam	Teaching Hours*	Credits
1.	First Language	English	100	25	75	4	3
2.	Second Language	(Tel/Hindi/Urdu/Sans)	100	25	75	4	3
3.	Foundation Course- 5	Entrepreneurship	50	---	50	2	2
4.	Foundation Course- 6	Communication & Soft Skills-2	50	---	50	2	2
5.	DSC 1 C	Corporate Accounting	100	25	75	6	4
6.	DSC 2 C	Business Statistics	100	25	75	6	4
7.	DSC 3 C	Programing in C	100	25	75	4	4
		Practical's	50		50	2	2
<b>Total</b>			<b>650</b>	<b>125</b>	<b>525</b>	<b>30</b>	<b>24</b>

## **II B.Com/B.Com(CA)/B.A (Accountancy)**

### **DSC 1 C - Corporate Accounting**

#### **Unit-I:**

**Accounting for Share Capital** - Issue, forfeiture and reissue of forfeited shares- concept & process of book building - Issue of rights – Buy back of shares (preparation of Journal only).

#### **Unit-II:**

**Issue and Redemption of Debentures** – Issue and redemption of debentures – Accounting Treatment for Convertible and Non-Convertible debentures sinking fund method only (preparation of Journal and Ledger).

#### **Unit –III:**

**Valuation of Goodwill:** Need and methods - Normal Profit Method, Super Profits Method – Capitalization Method, annuity method (including problems).

#### **Unit - IV**

**Valuation of shares:** Need for Valuation - Methods of Valuation - Net assets method, Yield basis method, Fair value method (including problems).

#### **Unit –V**

**Provisions of the Companies Act, 2013 :** Company final accounts - Preparation of Balance Sheet and Profit and Loss Account – Schedule-III – Adjustments relating to preparation of final Accounts.

#### **Reference Books:**

1. Modern Accounting: A. Mukherjee, M. Hanife Volume-II, McGraw Hill
2. Corporate Accounting – RL Gupta & Radha swami
3. Management Accounting: Shashi K. Gupta, R.K. Sharma, Kalyani Publishers.
4. Corporate Accounting – P.C. Tulsian
5. Advanced Accountancy: Jain and Narang
6. Advanced Accountancy : R.L. Gupta and M.Radhaswamy, S Chand.
7. Advanced Accountancy : Chakraborty
8. Accounting standards and Corporate Accounting Practices: T.P. Ghosh Taxman
9. Corporate Accounting: S.N. Maheswari, S.R. Maheswari, Vikas Publishing House.
10. Advanced Accountancy: Arutanandam, Raman, Himalaya Publishing House.
11. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand & Company Ltd.,

**Sri Venkateswara University**  
**Model Paper; DSC3B**  
**II B.Com; B.Com (CA) / B.A, Accountancy**  
**Semester – III,**  
**Corporate Accounting (DSC 1 C)**

Answer any **Five** of the following Questions

**(5 x 3 = 15 Marks)**

1. (a) Share Capital
- (b) Forfeiture of Shares
- (c) Debentures
- (d) Sinking fund
- (e) Super Profits
- (f) Methods of Valuations of Shares
- (g) Need for valuation of good will
- (h) Fair value method
- (i) Profit and Loss appropriation account
- (j) Companies Act 2013

**UNIT I**

2. A Ltd. Invited applications for 10,000 shares of Rs.100 each at a discount of 5 per cent payable as follows:

On application Rs.25; On allotment Rs.34; On first call and final call Rs.36.

The applications received were for 9,000 shares and all of these were accepted. All moneys due were received except the first and final call on 200 shares which were forfeited. 100 Shares were reissued @ Rs.90 as fully paid.

You are required to show journal entries in the books of the company.

3. A limited company issued a prospectus inviting applications for 2,000 shares of Rs.10 each at a premium of Rs.2 per share payable as follows:

On applications Rs.2; on allotment Rs.5 (including premium); on First Call Rs.3 and on Second Call Rs.2

Applications were received for 3,000 shares and allotments made pro-rata to the applicants for 2,400 shares, the remaining applications being refused. Money overpaid on application was employed on account of sums due on allotment.

X to whom 40 shares were allotted, failed to pay the allotment money and on his subsequent failure to pay the first call, his shares were forfeited. Y, the holder of 60 shares failed to pay the two calls, and his shares were forfeited after the second call had been made.

Of the shares forfeited, 80 shares were sold to Z, credited as fully paid, for Rs.9 per share, the whole of X's share being included.

Show journal and Cash Book entries.

## UNIT II

4. Raghavendra Co. Ltd. offered 1000, 5% debentures of Rs 100 each. Pass necessary journal entries in the following cases.
- Issued at par and redeemable at par.
  - Issued at 10% premium and redeemable at par.
  - Issued at 6% discount and redeemable at par.
  - Issued at par and redeemable at 10% premium.
  - Issued at 6% discount and redeemable at 10% premium.

## OR

5. On 1<sup>st</sup> April 2009 Anuradha company issued 4000 debentures of Rs 100 at par, redeemable at par on 31<sup>st</sup> March, 2014. A sinking Fund was established for this purpose. It was expected that investments would earn 5% interest. Sinking Fund tables show that Rs 0.180975 amounts to Rs 1 at the end of 5<sup>th</sup> year @ 5%.

On 31<sup>st</sup> March, 2014, the investments realized Rs 2,96,000. On that date the company's bank balance stood at Rs 1,45,000. The debentures were duly redeemed.

Prepare sinking Fund Account and sinking Fund Investments Account assuming that the investments were made to the nearest Rs 10.

## UNIT III

6. The following particulars are available in respect of a business firm.
- Average capital employed Rs. 50,000.
  - Trading results: 2005 (Profit Rs. 12,200) 2006 (Profit Rs. 15,000), 2007 (Rs. 2,000) and 2008 (Profit Rs. 21,000)
  - Market rate of interest on investment at 8%.
  - Rate of risk return on capital invested at 2%.
  - Remuneration of the proprietor Rs. 3,600 pa.  
You are required to compute the value of Goodwill on the basis of 3 years purchase of super profit.
7. The following particulars are available in respect:
- Profits earned in 2000-Rs.50,000, 2001-Rs.60,000 and 2002-Rs.55,000
  - Normal rate of return 10%
  - Capital employed Rs. 3,00,000
  - Present value of annuity for 5 years at 10% is Rs. 3.78 in a Rupee.
  - The profit included non-recurring profit on an average basis of Rs. 4000 out of which it was deemed that even non-recurring profits had a tendency of appearing at Rs. 1000 pa.  
You are required to calculate goodwill under the following methods.  
➤ As per five years purchase of super profit.

- As per capitalization method.
- As per annuity method.

#### UNIT IV

8. The following details are extracted from the records of Gopi Co. Ltd. For the year ending 31.12.2010. You are required to calculate the value of equity share.

2000, 9% preference share of Rs. 100 each Rs. 2,00,000  
 50,000 equity shares of Rs. 10 each, Rs. 8 per share paid Rs. 4,00,000  
 Expected profits per year before tax Rs. 2,18,000 rating tax 50 percent.  
 Transfer to general reserve every year Rs. 20% of the profit normal rate of earnings.  
 Transfer to general reserve every year Rs. 20% of the profit normal rate of earnings  
 15 percent.

9. The following is the Balance sheet of Srinivasa co. Ltd for the year ending with 31<sup>st</sup> March, 2012

Liabilities	Amount	Assets	Amount
8% preference share capital at Rs. 100 each	1,50,000	Land & Buildings	2,50,000
3000 Equity shares at Rs 100	3,00,000	Plant & Machinery	70,000
Bank Overdraft	64,000	Furniture	18,000
Sundry creditors	56,000	Goodwill	70,000
Profit & Loss Account	70,000	Cash in Hand	12,000
General Reserve		Cash at Bank	28,000
		Sundry Debtors	90,000
		Stock in Trade	1,30,000
		Preliminary Expenses	12,000
		Discount on issue of shares	20,000
	7,00,000		7,00,000
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Assets are revued as given below :

1. Land & Buildings Rs. 3,00,000, Plant & Machinery Rs. 64,000 .depreciate furniture by 10%

2. Debtors are expected to realise at 80% and stock in Trade is Rs. 1,42,000

Find the value of equity share

## UNIT V

10. Following is the Balance of BHANU Ltd. as on 31<sup>st</sup> March, 2013

Debit Balances	Rs	Credit Balances	Rs
Stock on 1-4-2012	75,000	Purchase returns	10,000
Purchases	2,45,000	Sales	3,40,000
Wages	30,000	Discount received	3,000
Carriage	950	Surplus A/c	15,000
Furniture	17,000	Share Capital	1,00,000
Salaries	7,500	Creditors	17,500
Rent	4,000	General reserve	15,500
Sundry Trade Expenses	16,950	Bills Payable	7,000
Debtors	27,500		
Plant and Machinery	29,000		
Cash at Bank	45,300		
Patents	4,800		
Bills receivable	5,000		
	<u>5,08,000</u>		<u>5,08,000</u>

Prepare Statement of Profit and Loss for the year ending 31<sup>st</sup> March, 2013 and a Balance

Sheet on that date after considering the following adjustments:

- (a) Stock on 31-3-2013 was ` 88,000.
- (b) Depreciate Plant and Machinery at 15%, Furniture 10% and Patents at 5%
- (c) Outstanding rent amounted to ` 800 and outstanding salaries ` 900.
- (d) Provide ` 5100 for doubtful debts.
- (e) The Board recommends payment of dividend @ 15% per annum.
- (f) Transfer the minimum required amount to general reserve.

**OR**

**11. Following are the balances of ABC Limited as on 31<sup>st</sup> March, 2013:**

Debit	Rs	Credit	Rs
Premises	30,72,000	Equity Share Capital	40,00,000
Plant	33,00,000	12% Debentures	30,00,000
Stock	7,50,000	Surplus account	2,63,000
Debtors	8,70,000	Bills payable	3,70,000
Goodwill	2,50,000	Creditors	4,00,000
Bank	4,52,000	General Reserve	2,50,000
Cahs in Arrears	75,000	Sales	41,50,000
Interim Dividend paid	6,00,000	Bad Debts Provision	35,000
Purchases	18,50,000		
Wages	7,71,000		
General Expenses	74,000		
Salaries	2,03,000		
Bad debts	21,000		
Debenture Interest paid	1,80,000		
	1,24,68,000		1,24,68,000
			1,24,68,000

**Additional Information:**

- (1) Depreciation Plant by 10%
- (2) Write off ` 5,000 from Preliminary Expenses.
- (3) Half year's Debenture interest due.
- (4) Create 5% provision on Debtors for doubtful debts.
- (5) Provide for Income Tax @ 35%.
- (6) Stock on 31<sup>st</sup> March, 2013 was ` 9,50,000.
- (7) No final dividend is declared by the company.
- (8) Ignore Corporate Dividend Tax.
- (9) Transfer the minimum required amount to General Reserve.

**II B.Com/B.Com(CA)**  
**DSC 2C - BUSINESS STATISTICS**

**Unit I:**

**Introduction to Statistics:** Definition, importance and limitations of statistics - Collection of data - Frequency distribution -Diagrammatic and graphic presentation of data. Graphic presentation using Computers (Excel).

**Unit II:**

**Measures of Central Tendency:** Characteristics of measures of Central Tendency-Types of Averages – Arithmetic Mean, Geometric Mean, Harmonic Mean, Median, Mode, Deciles, Percentiles, Properties of averages and their applications.

**Unit III:**

**Measures of dispersion:** Properties of dispersion-Range-Quartile Deviation –Mean Deviation-Standard Deviation- Coefficient of Variation.

**Unit IV:**

**Measuring of Relation** Meaning and use of correlation – Types of correlation-Karlpearson's correlation coefficient – Spearman's Rank correlation-probable error-Calculation of Correlation by Using Computers. Regression analysis comparison between correlation and Regression – Regression Equations-Interpretation of Regression Co-efficient.

**Unit V:**

**Index Numbers:** Index Numbers-Methods of Construction of Index Numbers – Price Index Numbers – Quantity Index Numbers –Tests of Adequacy of Index Numbers – Cost of Index Numbers-Limitations of Index Numbers – Use of Computer Software.

**Suggested Readings:**

- |  |                               |
|--|-------------------------------|
| 1. Business Statistics                         | K.Alagar; McGraw Hill         |
| 2. Business Statistics                         | Reddy, C.R Deep Publications. |
| 3. Statistics-Problems and Solutions           | Kapoor V.K.                   |
| 4. Fundamentals of Statistics                  | Elhance.D.N                   |
| 5. Statistical Methods                         | Gupta S.P                     |
| 6. Statistics                                  | Gupta B.N.                    |
| 7. Fundamentals of Statistics                  | Gupta S.C                     |
| 8. Statistics-Theory, Methods and Applications | Sancheti,D.C. &Kapoor V.K     |
| 9. Business Statistics                         | J.K.Sharma                    |
| 10. Business Statistics                        | Bharat Jhunjunwala            |
| 11. Business Statistics                        | R.S.Bharadwaj                 |



**Sri Venkateswara University**  
**Model Paper; DSC3B**  
**II B.Com; B.Com (CA)- Semester – III, Nov, 2016**  
**Business Statistics**

Time : 3 Hours

Max. Marks : 75

**Section-A**

Answer any **Five** of the following Questions

**(5 x 3 = 15 Marks)**

1. (a) Meaning of statistics.
- (b) Primary data.
- (c) Frequency distribution.
- (d) Compute Harmonic Mean  
 $X: 35,45,89,76,87,52,60$
- (e) Qualities of good average
- (e) Correlation co-efficient
- (f) Range
- (g) Methods of measuring Dispersion
- (h) Index Numbers.
- (i)  $X = 100$ , Median = 100, Find Z.

**Section - B**

Answer any **ONE** Question from each unit.

**(5 X12 = 60 Marks)**

**UNIT I**

2. Prepare frequency distribution table with the starting class 5-10 and all classes with the same width 5. The values are

12	19	26	36	27	37	40	15	6	16
21	5	10	33	20	10	45	30	19	7
37	20	19	17	28	20	11	30	26	20

3. Draw Histogram and find mode.

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
F	4	5	10	20	9	6	6

**UNIT – II**

4. Calculate Mean, Median for the following data

C.I	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Frequency	12	30	34	65	45	25	18

**OR**

5. Calculate Mode for the data given below

X	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
F	8	10	20	29	37	18	9	6

### UNIT – III

6. Calculate Mean Deviation from median for the following data

C.I	50-100	100-150	150-200	200-250	250-300	300-350	350-400
F	5	5	8	2	10	7	2

OR

7. Calculate Quartile Deviation for the following data

X	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
Y	5	5	8	2	10	7	2	1

### UNIT – IV

8. Calculate Karl Pearsons Correlation co-efficient and probable error for the following data

X	9	8	7	6	5	4	3
Y	15	16	14	13	11	12	10

OR

9. Find the Rank Correlation co-efficient for the following data

<u>X</u>	<u>48</u>	<u>60</u>	<u>72</u>	<u>62</u>	<u>56</u>	<u>40</u>	<u>39</u>
<u>Y</u>	<u>62</u>	<u>78</u>	<u>65</u>	<u>70</u>	<u>38</u>	<u>54</u>	<u>60</u>

### UNIT – V

10. From the fixed base index numbers given below, construct chain base index number:

Year	2008	2009	2010	2011	2012	2013
Items	52	70	65	80	86	90

OR

11. From the following data construct Fishers Ideal Index Number

Items	Base		Current	
	Price	Value	Price	Value
P	4	80	10	150
Q	8	32	16	80
R	2	20	4	48
S	10	50	20	120

## II B.Com (CA) III SEMESTER

### DSC3C: PROGRAMMING IN C

#### UNIT I

**Introduction to Algorithms and Programming Languages:** Algorithm – Key features of Algorithms – Some more Algorithms – Flow Charts – Pseudo code –Generation of Programming Languages – Structured Programming Language

**Introduction to C:** Introduction – Structure of C Program – Writing the first C Program – File used in C Program – Compiling and Executing C Programs – Using Comments – Keywords – Identifiers – Basic Data Types in C – Variables – Constants – I/O Statements in C- Operators in C- Programming Examples – Type Conversion and Type Casting.

#### UNIT II

**Decision Control and Looping Statements:** Introduction to Decision Control Statements – Conditional Branching Statements – Iterative Statements – Nested Loops – Break and Continue Statement – Goto Statement

**Functions:** Introduction – using functions – Function declaration/ prototype – Function definition – function call – return statement – Passing parameters – Scope of variables – Storage Classes – Recursive function

#### UNIT III

**Arrays:** Introduction – Declaration of Arrays – Accessing elements of the Array – Storing Values in Array – Calculating the length of the Array – Operations on Array – one dimensional array for inter-function communication – Two dimensional Arrays –Operations on Two Dimensional Arrays

**Strings:** Introduction String and Character functions

#### UNIT IV

**Pointers:** Understanding Computer Memory – Introduction to Pointers – declaring Pointer Variables – Pointer Expressions and Pointer Arithmetic – Null Pointers – Generic Pointers - Passing Arguments to Functions using Pointer – Pointer and Arrays – Passing Array to Function –

**Structure, Union, and Enumerated Data Types:** Introduction – Nested Structures – Arrays of Structures – Structures and Functions - Unions – Enumerated Data Types

#### UNIT V

**Files:** Introduction to Files – Using Files in C – Reading Data from Files – Writing Data from Files – Detecting the End-of-file –Close a file – Random Access Files – Binary Files – Command line arguments

## **REFERENCE BOOKS**

1. Introduction to C programming by REEMA THAREJA from OXFORD UNIVERSITY PRESS
2. E Balagurusamy: —COMPUTING FUNDAMENTALS & C PROGRAMMING – Tata McGraw-Hill, Second Reprint 2008, ISBN 978-0-07-066909-3.
3. Ashok N Kamthane: Programming with ANSI and Turbo C, Pearson Edition Publ, 2002.
4. Henry Mullah & Huubert L.Cooper: The Spirit of C An Introduction to modern Programming, Jaico Pub. House,1996.

**Model Question Paper**  
**B.Com.(Computer Applications): II Year – III Semester**  
**DSC3C: Programming in C**

**Time: 3 Hrs**

**Max. Marks: 75**

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**SECTION – A**

**1. Answer any 5 Questions :**

**5 x 3 =15 M**

- a) What are the types of Languages?
- b) Define keyword.
- c) Difference between Structure and Union.
- d) Difference between while and do-while.
- e) Explain getchar() and putchar() statements.
- f) What is flowchart?
- g) Explain any two bit-wise Operators.
- h) File modes in 'C'.
- i) Define null pointer.
- j) What is C preprocessor ?

**SECTION – B**

**Answer one question from each unit. Each carries equal marks:5 x 12 = 60 M**

**UNIT- I**

2. a. Explain algorithms with proper example.  
b. Define different categories of High-level Languages.

(or)

3. a. Explain the importance and uses of C-language.  
b. Explain scanf() and printf statements.

**UNIT- II**

4. Define branching and iterative statements.

(or)

5. Describe recursive functions with suitable example.

**UNIT- III**

6. What is an array? Explain the types of arrays?

(or)

7. a. Explain any five string functions in C.  
b. Write a Program for string Palindrome.

#### **UNIT- IV**

8. What is pointer? How the pointer are illustrated in functions.  
(or)
9. What is structure? How to create structure and explain with suitable example.

#### **UNIT - V**

10. Explain file management in 'C'  
(or)
11. Explain the command-line arguments.

## S.V. UNIVERSITY; TIRUPATI

### II B.Com (CA)-SEMESTER – IV

Sl. No.	Course	Name of the subject	Total Marks	Mid. Sem. Exam	Sem. End Exam	Teaching Hours**	Credits
1.	Foundation Course- 7	Communication & Soft Skills-3	50	---	50	2	2
2.	Foundation Course- 8	Analytical Skills*	50	---	50	2	2
3.	Foundation Course- 9	ICT-2 (Information & communication Technology)	50	---	50	2	2
4.	Foundation Course- 10	Leadership Education**	50	---	50	2	2
5.	DSC 1 D	Accounting for Service Organizations	100	25	75	6	4
6.	DSC 2 D	Business Laws	100	25	75	6	4
7.	DSC 3 D	Object Oriented Programming with C++	100	25	75	4	4
		Practical's	50		50	2	2
<b>Total</b>			<b>550</b>	<b>75</b>	<b>725</b>	<b>26</b>	<b>22</b>

\* To be taught by Maths/Statistics Teachers (and partly by English teachers)

\*\* To be taught by Telugu Teachers

**II B.Com/B.Com(CA)/B.A (Accountancy) IV Sem  
DSC 1D- Accounting for Service Organizations**

**Unit-I: Non-Trading/ Service Organizations:**

Concept - Types of Service Organizations – Section (8) and other Provisions of Companies Act, 2013 – preparation of income and expenditure account and Balance sheet (including problems).

**Unit – II Electricity Supply Companies:**

Accounts of Electricity supply companies: Double Accounting system – Revenue Account – Net Revenue Account – Capital Account – General Balance Sheet – Rebate on bills discounted (including problems).

**Unit – III - Bank Accounts**

Bank Accounts – Books and Registers to be maintained by Banks – Banking Regulation Act, 1969 - Legal Provisions Relating to preparation of Final Accounts, Rebate on bills discounted. (including problems).

**Unit-IV: Insurance Companies -I**

Life Insurance Companies –Preparation of Revenue Account, Profit and Loss Account, Balance Sheet (including problems) – LIC Act, 1956. Preparation and valuation of balance sheet – correct life assurance fund including problems.

**Unit – V: General Insurance:**

Insurance concepts - average clause-calculation of salvage value – claims for loss of stock (problems on valuation of loss of stock only).

**Suggested Readings**

1. Modern Accounting: A. Mukherjee, M. Hanife :McGraw Hill Company Ltd., New Delhi.
2. Corporate Accounting: T.S Reddy & A. Murthy; Margam Publications.
3. Corporate Accounting – RL Gupta & M. Radha Swami
4. Corporate Accounting – P.C. Tulsian
5. Company Accounts : Monga, Girish Ahuja and Shok Sehagal
6. Advanced Accountancy: Jain and Narang
7. Advanced Accountancy : R.K. Gupta and M. Radhaswamy
8. Advanced Accountancy : Chakraborty
9. Advanced Accountancy: S.P. Iyengar
10. Accounting standards and Corporate Accounting Practices: T.P. Ghosh Taxman
11. Corporate Accounting: S.N. Maheswari, S.R. Maheswari, Vikas Publishing.
12. Advanced Accountancy: Arutanandam, Raman, Himalaya Publishing House.
13. Advanced Accounts: M.C. Shukla, T.S. Grewal, S.C. Gupta, S. Chand.





## **II B.Com/B.Com (CA)-IV Sem**

### **DSC 2D - Business Laws**

#### **Unit-I:**

**Contract:** Meaning and Definition of Contract-Essential elements of valid Contract -Valid, Void and Voidable Contracts - Indian Contract Act, 1872.

#### **Unit-II:**

**Offer and Acceptance:** Definition of Valid Offer, Acceptance and Consideration -Essential elements of a Valid Offer, Acceptance and Consideration.

#### **Unit-III:**

**Capacity of the Parties and Contingent Contract:** Rules regarding to Minors contracts - Rules relating to contingent contracts.

#### **Unit-IV:**

**Sale of Goods Act 1930:** Contract of sale – Sale and agreement to sell – Implied conditions and warranties – Rights of unpaid vendor.

#### **Unit-V:**

**Cyber Law:** Cyber Law and Contract Procedures - Digital Signature - Safety Mechanisms.

#### **Suggested Readings:**

1. Business Law; Tulsian , Mc Graw Hill
2. J. Jayasankar, Business Laws, Margham Publication. Chennai -17
3. Kapoor ND, Mercantile Law , Sultan Chand
4. Business Law ; Mathur; Mc Graw Hill
5. Pillai Bhagavathi, Business Law , S.Chand.
6. Business Laws, Maruthi Publishers

## **II B.Com (CA); IV SEMESTER**

### **DSC3D: Object Oriented Programming with C++**

#### **Unit-1**

Introduction:- Programming Language generations, Object Oriented Paradigm, Basics of OOPs, Benefits, Applications of OOPs, Object Oriented Languages, Difference between OOPs and Procedure Oriented Programming

#### **Unit - 2**

Introduction to C++, General Structure of a C++ program, cin and cout objects, Keywords, identifiers, Constants, variables, Data types in C++, Operators-scope resolution operator, Control structures: Conditional statements and Looping statements, Functions –function with default arguments, inline functions, function overloading, reference variables Arrays - Single and multidimensional arrays.

#### **Unit-3**

Object and Classes-Structure and Class, Defining a class, defining member functions, member function with object as arguments and argument as return type, array of objects, static member data and member function, friend function and friend class.Constructor and destructors-characteristics of constructor, constructor types-default, parameterized, copy and dynamic, constructor overloading.

#### **Unit-4**

Operator overloading, defining operator function, overloading unary, binary and relational operators

Inheritance-benefits of inheritance, types of inheritance, methods overriding, virtual functions.

#### **Unit- 5**

C++ Streams and File handling-Stream class, unformatted i/o operations, formatting of output-ios class functions and flags, manipulators, Files-File classes, file types, file functions. Error handling in file operations, command line arguments

#### **Reference Books**

1. Object Oriented Programming with C++ - M.T. Somashekara, D.S.Guru, H.S. Nagendraswamy, K.S. Manjunatha, PHI 2nd Edition
2. Object Oriented Programming with C++ - E. Balagurusamy, 4th Edition, Tata Mc Graw Hill Publication
3. Object Oriented Programming in C++ - Robert Lafore, 4th Edition, Pearson Education
4. Object-Oriented Programming with ANSI and Turbo C++.