

13. Textile Craft

B.Sc. Part-II 2020

SCHEME : B.A/B.Com/B.Sc. PART-II

		Duration	Max mark	Min mark
1. Theory:	Paper-I	3Hrs	30	22
	Paper-II	3 Hrs	30	
2. Practical :	Paper-I	3Hrs	35	25
	Paper-II	3 Hrs	35	
3. Submission	Paper-I		35	25
	Paper-II		35	

Paper-I : Weaving Theory-I

UNIT-I

Yarn numbering system –Indirect (cotton, metric, woollen and worsted count) and Direct (Tex and Denier)

Yarn Twist and their types, Balance of fabric

Methods of fabric construction: Braiding & Lacing, knitting, felting and weaving

UNIT-II

Types of loom- Shuttle & Shuttle less; introduction to shuttleless looms- airjet, waterjet, projectile and rapier loom

Preparation of Warp and Weft for weaving

Draft, Peg plan, Weave, Repeat, Design

UNIT-III

Derivatives of Plain weave- Rib and Basket

Derivative of twill weave- Regular, Irregular, Left hand, Right hand, Pointed and curved twill

Fabric defects, Selvedge, Types of Selvedge's

Paper-II: Dyeing Theory –I

UNIT-I

Difference between dyeing and printing

Mechanical finishes- basic process of beating, singeing, napping, calendaring and embossing.

UNIT-II

Stages of Dyeing (fibre, yarn & fabric)
Wool dyeing and silk dyeing
Dyeing machines- Jigger and Winch dyeing machine

UNIT-III

Steps of printing- preparation of cloth & colour
Methods of Direct printing- Block & Roller printing
Thickeners and types of thickeners

Practical (Paper-I)

1. Thread count and Balance of the cloth
2. Weave samples of derivatives of plain and twill weave

Practical (Paper-II)

1. Introduction to motif, repeat and layout
2. Block printing- samples preparation
3. Batik-spot, crack, scratch and painting (samples)

Submission (Paper-I)

1. Assessment of samples
2. Preparation of weave samples

Submission (Paper-II)

1. Any one article using block
2. Any one article using batik

Examination Scheme:

One Major Problem: 20 Marks

One Minor Problem: 15 Marks

Reference books :

- Sahnai, V.A. (1989) Theory of Dyeing, Sevak publications. Mumbai
Trotman, E.R. (1985) Technology of Dyeing, John wiley & sons Inc London. London
Pryag, R.S. (1994) Technology of Printing, India publisher.
Pryag, R.S. (1995) Technology of Finishing, India publisher.
Bucker, (1998) Textiles, Abhishek spublications.
Kulkarni, M.M., Weaving technology, Virindra publication, Jalgon.

14. Garment Production & Export Management

B.Sc. Part-II 2020

B.A/B.Com.– Maximum Marks 40

Hrs.3

B.Sc. Maximum Marks 50

THEORY PAPER – 1

Fashion and Apparel Design

OBJECTIVES :-

1. To Develop Sensitivity & Understanding towards Historical World Costumes.
2. To Focus on Design Elements & Principles and their Details on Garments.
3. To Create Awareness About the Techniques of Pattern Making & Principle of Fittings.

SECTION –A

TRADITIONAL COSTUMES

1. Study of traditional costumes of various regions of India.
2. History of costumes of Indian civilization.
3. Brief knowledge of world costumes ; French , German, Greek, European

SECTION –B

TECHNIQUES IN PATTERN MAKING

4. Eight head theory – principles and advantages.
5. Pattern making techniques- drafting, draping, flat pattern.
6. Colour and colour schemes, psychological effects of colour on clothes.
7. Fitting – principles of fitting, factors to be considered while fitting, common fitting problems, remedying fitting defects of bodice, sleeves, and skirts.

SECTION – C

DESIGN

8. Classification of design – structural and decorative
9. Elements and principles of design.
10. Layout of design of fabric in cutting - floral , checks, plaids, lines.

References :

1. Erwin, M. D., Kinchen, L.A. & Peters, A. (1979). Clothing for moderns. Macmillan publishing new York.
2. Jo, K. M. (1985). Clothing construction I&II. Prentice Hall.
3. Mathews, M. (1974). Practical clothing construction part I & II. Chennai, Cosmic press.
4. Doogaji, & Deshpandey, R. (1988). Basic process and clothing construction. Raaj Prakashan.

THEORY PAPER – II

ELEMENTS OF MARKETING AND FINANCE

B.A./B.Com.-Maximum Marks 40

Hrs. – 3

B.Sc. – Maximum Marks 50

OBJECTIVES :

1. To create awareness about the procedures to select, proceed & start the Small Scale Industry.
2. To guide the process of product development according to the market needs.
3. To become familiar with the methods of payment in foreign trades & about types or bills.

SECTION A

1. Market structure- Types of market, market survey, elements of cost.
2. History of readymade garment industry, Problem and prospects in global market
3. Branded versus non -branded market.
4. Types of garments exported.

SECTION B

5. Elementary knowledge of working capital factors affecting working capital, operating cycle.
6. Sources of finance.
7. Letter of credit
8. Methods of payment in foreign trade
9. Various typed of bills.
10. Insurance

SECTION C

Brief study of ;

11. ECGC (export credit and guarantee corporation)
12. EIC (export inspection council)
13. IIP (Indian institute of packaging)
14. ICA (Indian of arbitration)

References :

1. Srivastav, & Aggarwal. (). Vipdan prabandh.
2. Mamoria, C.B., Joshi, R. L. & Mulla, N.I. (2003). Principles & practice of marketing in india. Kitab Mahal distributors.
3. Satya narayan; Sales management.
4. Daver R.S. (2009). Salesmanship and Publicity. Vikas publishing house Pvt Limited.

PRACTICAL- 1 APPAREL DESIGNING

B.A/B.Com.–Maxmium Marks 60

Hrs.- 4

B.Sc. – Maxmium Marks 25

OBJECTIVES :

To familiarize with basics of color

To develop expertise in drawing croquis and draping dresses on them.

Contents:

1. Colour wheel and colour scheme.
2. Introduction to eight head theory and stick figure 9.5", 10.5".
3. Developing an adult croquis from block figure.
4. Draping of garments on croquis (at least 8 sheets) using different colours schemes and occasions.
5. Preparation of a portfolio.

Examination Scheme :

B.A./B.COM:-Max Marks:-60

1. Major Problems-30

2. Minor Problems:-20

Internal:-10

B.SC:-Max Marks:-25

1. Major Problem:-10

2. Minor Problems:-10

Internal:-5

PRACTICAL – II

CLOTHING CONSTRUCTION

B.A./B.Com.–Maxmium Marks 60

Hrs- 4

B.Sc. – Maxmium Marks - 25

OBJECTIVES :

1. To be able to make basic drafts of bodice, sleeve and collar.
2. To learn the knowhow of stitching and all basic processes and ornamentation techniques.

Contents :

1. Pattern making
 1. Child basic block and sleeve block.
 2. Sleeve variations; slash and spread method-puff, bell, legomutton, bishops sleeves.
 3. Sleeve bodice combination; Magyar, raglan, dolman sleeves.
 4. Different types of collars.
 5. Different types of yokes.
2. Stitching of each sleeve, collar and yokes on bodice block.
3. Fashion designing (5 each) on sheet baby frocks, a line frocks , rompers. sun suits skirts and tops, bush -shirts with shorts.
4. Redesigning of old garment using the idea such as; to consider factors such as money, creativity, individuality, skills, needs,
 - (i) Patchwork
 - (ii) Ornamental fabric.
 - (iii) Decorative embroideries
 - (iv) Trims
 - (v) Paints and dyes
 - (vi) Introduction of fashion designing in fashion shows.
5. Introduction fashion designing in fashion shows.

References :

1. Jo, K.M. & Beazley. (1985).The sewing book of a complete guide. Prentice Hall.
2. Ireland, P. J. (1982). Fashion designing drawing and presentation. Batsford Ltd. 4th Revised edition.
3. Chase, R.W. (1997). CAD for fashion design. Prentice Hall; Pap/DSKT edition.

Examination Scheme :

B.A.\B.Com.-Max Marks:-60

1. Major Problems-30

2. Minor Problems:-20

Internal:-10

B.Sc:-Max Marks:-25

1. Major Problem:-10

2. Minor Problems:-10

Internal:-5

15.

Geology and Mining

Scheme:

Theory: Max-Marks 100 Minimum Pass marks: 36

Paper I: Petrology 3 hrs duration Max Marks 50

Paper II: Principles of Stratigraphy and 3 hrs duration Max Marks 50

Geology of India

Practical (one) 4 hrs duration Max Marks 50

Paper I: Petrology

Section-A - Igneous Rocks

Composition of magmas; intrusive and extrusive forms; structure and texture; Classification

Crystallization of basaltic magma; Bowen Reaction Principle; differentiation

Study of common igneous rocks: Granite, rhyolite, gabbro, basalt, pegmatite, diorite, syenite and peridotite

Section-B- Sedimentary Rocks

Process of formation of sedimentary rocks; lithification and diagenesis

Structure and texture of rocks; Elementary idea of sedimentary deposits, sedimentary environments and provenance

Study of common sedimentary rocks: Sandstone, limestone, shale, conglomerate and breccia

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Section-C – Metamorphic Rocks

Agents and types of metamorphism; concept of grade and facies; Structure and classification

Types of metamorphism and their products; metasomatism and anatexis

Study of common metamorphic rocks: Marble, schist, gneiss, quartzite, slate

Paper II: Principles of Stratigraphy and Geology of India

Section-A

Principles of stratigraphy; standard stratigraphic scale; principles of correlation;

Palaeogeography of India in Permo-Carboniferous period; Physiographic subdivisions of India

Stratigraphic divisions in India and their equivalents

Section-B

Stratigraphy, distribution, lithology and correlation of the Aravalli, Delhi and Vindhyan Supergroup of rocks

Distribution, succession, climate, correlation, fossil content and mineral resources of the Gondwana Supergroup

Section-C

Lithology, succession, distribution and fossil content of Triassic of Spiti, Jurassic of Kachchh, Tertiary period, Siwalik Supergroup

Origin, composition, distribution and age of Deccan Traps; Tectonic framework of India

Practical

Study of typical textures of rocks; Megascopic study of common igneous, sedimentary and metamorphic rocks; Microscopic studies of granite, rhyolite, gabbro, dolerite, limestone, sandstone, schist, gneiss and marble.

Neat drawings of paleogeographical maps of India during Permian-Carboniferous; Distribution of various geological formations in outline map of India; Identification and description of the representative stratigraphic rocks.

Geological fieldwork and collection of samples.

16. ENVIRONMENT SCIENCE

B.Sc. Pt II- 2020

Scheme:

Theory

Max Marks: 100

Min. Marks:36

Paper 1

3 hours duration

Max Marks:50

Paper 2

3 hours duration

Max Marks:50

Practical

4 hours duration

Min. Marks:18

Max Marks:50

Note:

1. Two types of Question papers for each theory paper will be applicable. Total duration of 3 hours for each paper. One question paper will comprise of the objective questions and the other will be of descriptive type question.
2. Descriptive type question paper (to be given during 1st 2 hours of examination) will have 9 questions from each section out of which a student is supposed to attempt 4 questions selection at least 1 from each section. This portion of the paper will carry maximum 30 marks. Each descriptive question will be of 7.5 marks.
3. The objective question paper will be given after 2 hours of commencement of descriptive type paper and will have 35 questions of the objective type. This portion of the paper will carry 20 marks. The objective type questions will be of the following types:
 - a. Multiple choice type questions:20 questions of ½ marks each.
 - b. Fill in the blanks/one word/true or false type questions:10 questions of ½ mark each.
 - c. Very short answer type questions:5 questions of 1 mark each

Paper I: Environmental Pollution

Section-A

1. Sources and Classification of Air pollutants; aerosols, gases, vapors.
2. Meteorological Aspects; Factors affecting Air Pollution, wind roses, plume behavior, estimation of plume rise.
3. Air Pollution modeling; Dispersion models, Pasquill model, ASME model, Gaussian plume model, assumption, limitation applications.
4. Effects of Air Pollution; effects on economics, effects on environment and effects on human beings.
5. Global effects of Air Pollution, Greenhouse effect, Global warming, climate change, Acid rains, Ozone depletion.
6. Air Pollution due to automobile; Vehicular emissions, Motor fuel combustion, automobile emission mechanism from various vehicles.

Section-B

1. Classification of water pollutants.
2. Different types of sources of water pollution.
3. Types of wastewater and its quantum.
4. Effects of water pollution on Environment(Soil, organisms, vegetation, crop plants)
5. Effects of water pollution on human beings.
6. Pollution of water by Industries and power plants.
7. Marine pollution; quantum, types of pollutants, effects on water quality, organisms and ultimate effects on human beings.

Section-C

1. Various sources of Noise Pollution.
2. Methods of measurements of Noise Pollution.
3. Temporary effects of Noise Pollution on human beings.
4. Permanent effects of Noise Pollution on human beings.
5. Land pollution due to Municipal solid waste.
6. Pollution due to agricultural chemicals on land and crop plants.

Suggested Readings:

- ❖ Banerjee, B.N. 1987, Environmental Pollution and Bhopal Killings, Gian Publishing House, New Delhi.
- ❖ Environmental Radiation and Thermal Pollution and their control, Acol Publication, New Delhi.

- ❖ Katyal, T. and Satake, M. 2001. Environmental Pollution. Anmole Publications Pvt. Ltd. New Delhi.
- ❖ Liu, D.H.F. and Liptak, B.G. 2000. Air Pollution. Washington. D.C.
- ❖ Nath, P. and Nath, S. 1990. Environmental Pollution conservation and Planning, Chng Publication, Allahabad.
- ❖ S.A. 1991, Environmental Impacts on Water Resources Project, Discovery Publishing Home, New Delhi.
- ❖ Santara, S.C. 2001. Environmental science. New Central Book Agency (P) Ltd. Calcutta.
- ❖ Sharma, P.D. 2005. Ecology and Environment. Rastogi Publications, Meerut.
- ❖ Sinha, U.K. 1986, Ganga Pollution and Health Hazards, Alka Enterprises, New Delhi.
- ❖ Tebbntt, T.H.Y.1983, Principles of water quality control, Pragmon Press, Oxford.

Paper II: Computer Techniques, Environmental Biotechnology and Environmental Microbiology

Section A

1. Biotechnology and its possible role in Environmental conservation.
2. Oil Slicks, oil spills, pesticide, tannery food industries and applications of biotechnology.
3. Bioremediation: Bioremediation of polluted soil.
4. Hazardous wastes in environment and use of Biotechnology.
5. Air Pollution abatement and Biotechnology (Bio scrubbers, Bio beds, Bio trickling filters).
6. Biotechnology and Wastewater treatment.

Section B

1. Microbiology and its possible role in solution of Environmental Challenges.
2. Air borne diseases and causal organisms.
3. Water borne diseases and causal organisms.
4. Role of microbes in metal recovery.
5. Role of microbes in pest control.
6. Degradation of pesticides in environment and soil.
7. Vermitechnology and waste treatment.

Section C

1. Software MS Word and its possible role in environmental challenges.
2. Software XP and environmental Challenges.
3. Role of Websites and internet in environmental conservation.
4. Wind rose formation and its application in environmental monitoring.

Suggested readings:

- ❖ Allen, M.J. and Geldreich, E.F. 1975. Bacteriological criteria for groundwater. *Groundwater* .13: 45-52.
- ❖ Alvares, Claude, ed. 1996. *The Organic Farming Source book*, Goa. The other India Press
- ❖ Annan, Kaffi, A. 2002. *Towards a sustainable Future*. 44(7): 10-15.
- ❖ Bonde, G.J. 1977. Bacterial indicator of Water Pollution. *Adv. Aqua. Microbial*. 1: 273-364.
- ❖ Border, R. and Winter, J. 1978. *Microbial methods for monitoring the environment – water and waste*. USEPA, Cincinnati, USA
- ❖ Brown, C.M., old Camp bell, Priest, F.G. 1987. *Introduction to Biotechnology*, Blackwell Scientific Publishers, London.
- ❖ Cabelli, V.J. 1982. Microbial indicator systems for assessing water quality. *Anton Von Leeuwenhock*. 48: 613-618.
- ❖ Carson, Rachel. 1962. *Silent Spring*. Indian Edition. Goa : Other Indian Press.
- ❖ Cass, A.E.G. 1990. *Biosensors: A practical approach*, Oxford University Press, New York.
- ❖ Chakraverty, A. 1989. *Biotechnology and other Alternative Technologies*. Oxford and IBH Publishing CO. Pvt. Ltd. New Delhi
- ❖ Chatterjee, A.K. and Alam, B .1998. Aquatic plants in heavy metal pollution abatement and monitoring .pp 191-205. In: Sood, P.P and Prakash .R. (eds). *Heavy metal pollution, Toxication and Chelation*. M.D. Publications, New Delhi.
- ❖ Chatterjee, D.K., Kellog, S.T., Furukawa, K., Kilbanes, J.J. and Chakraborty, A.M. 1991. Genetic approach to the problems of toxic chemical pollution. PP: 199-212. Walton, A.G. (ed.). *Recombination DNA*. Elsevier. Amsterdam.
- ❖ Davis, B.D., Dulbecco, R., Einsen, H.N. and Ginnsberg, H.S. 1990. *Microbiology*. Harper and Row Publication. Singapore.
- ❖ FikSel, J. and Covello, V.T. 1986. *Biotechnology, Risk assessment*. Pergamon Press, New York.
- ❖ Forsteb, C.F. 1985. 1986. *Biotechnology and Wastewater treatment*. Cambridge University Press, London.
- ❖ Forster, C.F. and Warse, D.A.J. 1987. *Environmental Biotechnology*. Ellis Horwood Ltd. U.K.
- ❖ Gandey, A.E. and Gandy, E.T. 1981. *Microbiology for Environmental Scientists and Engineers*. McGraw – Hill, New York.

- ❖ James, A. and Evison, L. 1979. Biological indicators of Water quality. John Wiley and sons.
- ❖ Lowries, P. and Wells, S. 1991. Microorganisms, Biotechnology and Disease, Cambridge University Press. Cambridge.
- ❖ Mc Carthy, J.F. and Roch, M. 1983. Biomarkers of Environmental Contamination. CRC Press, Boca Raton, California.
- ❖ Mitchell, R. 1974. Introduction to Environmental Biotechnology. Prentice – Hall, London.
- ❖ Prentis, S. 1984. Biotechnology. A new Industrial Revolution. Orbis Publishing, London.
- ❖ Primose, S.B. 1987. Modern Biotechnology. Blackwell Oxford.
- ❖ Rana, S.V.S. 1986. Recent trends in Biotechnology and Biosciences. Pragati Press. Muzzafarnagar.
- ❖ Rehm, H.J. and Redd, G. 1986. Biotechnology, Vol I to B VCH Nemheim, FRG
- ❖ Sanunders, V.A. and sanders, J.R. 1987. Microbial Genetics applied to Biotechnology, Cromm, Helm, and London.
- ❖ Stoner, D. 1994. Biotechnology for the treatment of Hazardous wastes. Lewis Publishers. Boca Raton, California.
- ❖ Walker, J.M. and Ginford, E.B. 1985. Molecular Biology and Biotechnology Dorset Press, Dorset.
- ❖ Yoken, E. and Dimartino, V. 1989. Biotechnology in future Society Grower Publishing Co. USA.

Suggested Field and Laboratory Exercises

1. Estimation of SPM (Suspended Particulate Matter) from heavy traffic and busy areas.
2. Estimation of CO₂.
3. Estimation of SO_x.
4. Estimation of NO_x.
5. Preparation of pollution roses.
6. Estimation of Noise Levels from busy areas.
7. Estimation of Noise Levels from Silence zone (Hospital area, sanctuaries, National Parks)
8. Estimation of pH of water.
9. Estimation of EC of water.
10. Estimation of TDS of water.
11. Estimation of Chlorides.

12. Visit to various water harvesting structures (traditional water harvesting structures), ponds, bawries, kunds, kacchatanka, puccatanka.
13. Collection of water from surface water sources, tankas etc.
14. Estimation of pH, EC, TDS, Chlorides, Oxygen, alkalinity etc. from surface water sources of different locations.
15. Estimation of pH, EC, TDS, Chlorides, Oxygen and fluoride determination of ground water collected from different sources.
16. Visit to sewerage treatment plants. Collection and analysis of water from sewerage plants.
17. E-coil count and other microbe identification.

17.

BIO-TECHNOLOGY

Scheme :		
Min. Pass Marks : 36		
Paper-I	3 hrs. duration	Max. Marks : 100
Paper-II	3 hrs. duration	Max. Marks : 50
Practical Min. Marks: 18	5 hrs. duration	Max. Marks : 50
Paper-I : Biophysics and Molecular Biology		Max. Marks : 50

Section - A

- Energetics of living body, sources of heat, limits to temperature.
- Heat dissipation and conservation.
- Lambert-Bear law, Spectrophotometry and colorimetry Primary
- events in photosynthesis.
- Strategies of light reception in microbes, plants and animals.
- Correction of vision faults, Electrical properties of biological com-
- partments. Electricity as a potential signal.
- Generation and reception of sonic vibrations. Hearing aids.
- Intra- and inter-molecular interactions in biological systems. Spa-
- tial and charge compatibility as determinant of such interactions.
- Physical methods applied to find out molecular structure. X-ray
- crystallography, and NMR.
- General spectroscopy. - UV, vis, fluorescence, atomic absorption,
- IR, Raman spectra.
- Physical method of imaging intact biological and biological struc-
- ture : Ultrasound, optical filters, X-ray, CAT scan, EEG, ECG,
- NMR imaging.

Section - B

- Molecular basis of life, Structure of DNA, DNA replication both
- prokaryotes and eukaryotes.
- DNA recombination, molecular mechanisms in prokaryot and
- eukaryot.
- Insertion elements and transpos.
- Structure of prokaryotic genes.
- Prokaryotic transcription.
- Prokaryotic Translation.
- Prokaryotic gene expression (lac, his, trp, catabolic repression)

Section - C

- Structure of eukaryotic genes.
- Eukaryotic transcription.
- Eukaryotic Translation.

- Eukaryotic gene expression transcription factors etc.
- Gene expression in yeast.
- Gene expression in protozoan parasites.
- Gene organization and expression in mitochondria and chloroplasts.
- Post-translation regulation of gene expression.
- Development and environment regulation of gene expression.

B.Sc. Part II

Paper-II: Immunology Animal Cell Culture and Recombinant DNA Technology Max. Marks 50

Section - A

- The Immune system and immunity along with historical perspective.
- Antigen-antibody and their structure.
- The organs and the cells of the immune system and their function.
- Antigen-antibody interaction.
- Humoral and cell-mediated immunity (role of MHC and genetic restriction)
- Origin of diversity in the immune system
- Effectors mechanisms.
- Immunity to infectious of diseases, vaccines.

Section - B

- History developed of cell cultures. The natural surrounding of animal cells.
- Metabolic capabilities of animal cells. Simulating natural condition for growing animal cell.
- Importance of growth factors of the serum.
- Primary cultures. Anchorage dependence of growth Non anchorage dependent cells.
- Secondary cultures. Transformed animal cells - Established/continuous cell lines.
- Commonly used animal cell lines-their origin and characteristics.
- Growth kinetics of cells in culture.
- Application of animal cell culture for studies on gene expression.
- Organ culture
- Transfection of animal cell : Selectable markers. HAT selection. Antibiotic resistance etc.
- Cell fusion : Transplantation of cultured cells. Differentiation of cells.

Section - C

What is gene cloning and why do we need to clone a gene?
Tools and techniques-plasmids and other vehicles genomic DNA,
RNA, cDNA, RT
enzymes and other reagents, technique, laboratory requirements
Safety measures and regulations for recombinant DNA work
Choice and selection of the tools and the techniques
Vehicles: Plasmids and bacteriophages; available phagemids,
cosmids, viruses.
Purification of DNA from bacteria, plant and animal cells
Manipulation of purified DNA, introduction of DNA into living
cells. Cloning vectors for E. coli. Cloning vectors for organisms
other than E. coli, yeast, fungi, plants, agrobact, plant virus and
animal viruses.
Application of cloning in gene analysis: How to obtain a clone of
a specific gene,
studying gene location of structure, studying gene expression.
Gene cloning and expression of foreign genes in research and
biotechnology. Production of protein from cloned gene.
Gene cloning in medicine: Pharmaceutical compounds, artificial
insulin gene, recombinant vaccine, diagnostic reagents.
Practical - Bases on theory syllabus

MAY 1990

COMPUTER APPLICATION

(Common for B.A./B.Com./B.Sc.)

	Science	Com. Arts	Science	Com./Arts
Paper I Data Base Management System	50			65
Paper II Structured Programming and Computer Graphics	50			55
Practical Programming Laboratory		50		
On-the-Job training (4 weeks)				70

The duration of these papers will be 3 hours.

Paper I: Data Base Management System
 Categorization of DBMS Systems. Network. Hierarchical and relational databases. Application of DBMS systems. Relational databases management system. Why to use them and where. Data Description Language. Data Manipulation Language and Data Control Language.

Introduction to DBASE, DBASE commands. Development of an application under DBASE using forms, screens and PRG. files. Security considerations in database management systems. Performance improvement in databases.

Relational databases, advanced concepts. Introduction to ORACLE/INGRES of a similar RDBMS on a multisuser environment. Structured query language. Form design on a advanced RDBMS. Report generator, Query by example and Report by form. Accessing RDBMS using programming languages.

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System management. User management Security considerations
Practical.

Design of a database for a business application. Design of data entry forms and report layouts for this database. Creation of programs to access and manipulate database.

Development of a business application in RDBMS.

Paper-II : Structured Programming and Computer Graphics

Introduction. Need of structured programming. Methods of documentation. Methods of analyzing a program requirements. Data flow diagrams. Entity relationship. Flow charts.

Various categories of programming language (3GL, 4GL, etc.), introduction to C and COBOL. Program development in C using structured programming concepts.

Why Graphics. Various types of graphics programs. Drafting packages. DTP packages. Microsoft Windows. Various documentation cum DTP packages e.g. Wordperfect, Microsoft Word etc.

Introduction to a Pagemaker/Ventura or a similar package. Preparation of documents using DTP package. Formatting. Various fonts and characters set. Various type of printers used in DTP. Introduction to commercial DTP system available in market. Indian language fonts. Creation of Indian language fonts.

Practical

Development of a business application using C.

Preparation of a document and publishing it using a DTP System. Creation of fonts.

Managing a Microsoft Window session. Creating groups and program items under Window. Turning Windows for a computer system.

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Dy. Registrar

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