M.D.UNIVERSITY, ROHTAK

SCHEME OF STUDIES, SYLLABUS & EXAMINATION OF ENVIRONMENTAL STUDIES

(Common For All UG Courses)

Course Number	Course No.	Course Title	Teaching Schedule L	T	P	Total of class	Marks Theory	Exam. Schedule Practical Exam	Total Marks	Duration
GES 106F		Environmental Studies	3	0	1	4	75	25	100	3hrs

Coordinator
IQAC
S.J.K. College, Kalanaur

ATTESTED

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 A 01072016

1/7

GES-106-F : ENVIRONMENTAL STUDIES

Theory 75 Marks
Field Work 25 Marks (Practical)

Unit-1 The Multidisciplinary nature of environmental studies. Definition, scope and importance.

Unit-2 Natural Resources :

Renewable and non-renewable resources : Natural resources and associated problems.

a) Forest resources : Use and over-exploitation : deforestation, case studies. Timber extraction, mining dams and their effects on forests and tribal people.

b) Water resources : Use and over-utilisation of surface and goround water, floods, drought, conflicts over water, dams- benefits and problems.

c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

d) Food resources : World food problems, changes, caused by agriculture and overgrazing, effects of modern agriculture, fertrilizer-pesticide problems, Water logging, salinity, case studies.

e) Energy resources : Growing energy needs; renewable and non- renewable energy sources, use of alternate energy sources, case studies.

f) Land resources : Land as a resource, loand degradation, man induced landslides, soil erosion and desertification.

* Role of an individual in conservation of natural resources.
* Equitable use of resources for sustainable lifestyles.

(8 lectures)

Unit-3 Ecosystems :

* Concept of an ecosystem.
* Structure and function of an ecosystem.
* Producers, consumers and decomposers.
* Energyflow in the ecosystem.
* Ecologicalsuccession.
* Food chains, food webs and ecological pyramids.
* Introduction, types, characteristic features, structure and function of the following eco-system :

a. Forest ecosystem.
b. Grassland ecosystem.
c. Desert ecosystem.
d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 A 01 07 2016

(6 lectures)

Unit-4 Biodiversityand its conservation

* Introduction - Definition : Genetic, Speciesand ecosystem diversity.
* Biogeographical classification of India.
* Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
* Biodiversityat global, National and local levels.
* India as a mega-diversitynation.
* Hot-spots of biodiversity.
* Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.
* Endangered and endemic species of India.
* Conservation of biodiversity : In-situ and ex-situ conservation of biodiversity.

(8 lectures)

Unit-5 Environmentalpollution :

Definition, causes, effects and control measures of :

a) Air pollution.
b) Water pollution
c) Soilpollution
d) Marine pollution
e) Noise pollution
f) Thermalpollution
g) Nuclear hazards

* Solids waster management : causes, effects and control measures of urban and industrial wastes.
* Role of an individual in prevention of pollution.
* Pollution case studies.
* Disaster management : floods, earthquake, cyclone and landslides.

(8 lectures)

Unit-6 Social issues and the Environment :

* From unsustainable to sustainable development.
* Urban problems related to energy.
* Water conservation, rain water harvesting, watershed management.
* Resettlement and rehabilitation of people : its problems and concerns case studies.
* Environmental ethics : Issues and possible solutions.

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 A 01072016

* Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies.
* Wasteland reclamation.
* Consumerism and waste products.
* Environment ProtrectionAct.
* Air (Prevention and Control of pollution) Act.
* Water (Prevention and Control of pollution) Act.
* Wildlife ProtectionAct.
* Forest ConservationAct.
* Issuesinvolved inenforcement ofenvironmentallegislation.
* Public awareness. (7 lectures)

Unit-7 Human population and the Environment.

Population growth, variation among nations. Population explosion- FamilityWelfare Programme. Environment and human health.
Human Rights. Value Education. HIV/AIDS.
Woman and Child Welfare

Role of Informatoin Technology in Environment and human health.

Case Studies. (6 lectures)

Unit-8 Field Work :

* Visit to a local area to document environmental assets - river/forest/grassland/hill/mountain.
* Visit to a local polluted site-urban/Rural/ Industrial/ Agricultural.
* Study of common plants, insects, birds.
* Study of simple ecosystems- pond, river, hill slopes, etc. (Field work equal to 5 lecture hours).

References

1. Agarwal, K.C. 2001 Environmental Biology, Nidi Pub. Ltd. Bikaner.
2. Bharucha, Frach, The Biodiversity of India, MApin Publishing Pvt. Ltd. Ahmedabad-380013, India, E-mail : mapin@icenet.net (R).
3. Brunner R.C. 1989, Hazardous Waste Incineration, Mc. Graw Hill Inc. 480p.

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2A0107 2016

4/7

4. Clark R.S., Marine pollution, Slanderson Press Oxford (TB).
5. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, EnvironmentalEncyclopedia, Jaico Pub. House, Mumbai 1196 p.
6. De A.K., EnvironmentalChemistry, Wiley Eastern Ltd.
7. Down to Earth, Centre for Science and Environment (R).
8. Gleick, H.P., 1993. Water in crisis, Pacific Institute for Studies in Dev. Environment & Security Stockholm Env. Institute, Oxford Univ. Press, 473p.
9. Hawkins R.E. Encyclopedia of Indian NaturalHistory, Bombay Natural HistorySociety, Bombay (R).
10. Heywood, V.H. & Watson, R.T. 1995. Global Biodiversity Assessment, Cambridge Uni. Press 1140p.
11. Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p.
12. Mackinney, M.L. & Schoch, RM 1996, Environmental Science systems & solutions, Web enhanced edition. 639p.
13. Mhaskar A.K., Mayyer Hazardous, Tekchno-Science Publications (TB)
14 Miller T.G. Jr. Environmental Science, Wadsworth Publishing Co. (TB).
15. Odum, E.P. 1971, Fundamentals of Ecology. W.B. Saunders Co. USA, 574p.
16. Rao M.N. & Datta, A.K. 1987 Waste Water Treatment. Oxford & TBH Publ. Co. Pvt. Ltd. 345p.
17. Sharma, B.K. 2001, Environmental Chemistry, Goal Publ. House, Meerut.
18. Surveyof the Environment, The Hindu (M).
19. Townsend C., Harper J. and Michael Begon. Essentials of Ecology, BlackwellScience (TB).
20. Trivedi R.K., Handbook of Environmental Laws, Rules, Guidelines, Comliances and Standards, Vol. I and II Enviro Media (R).
21. TrideviR.K. and P.K. Goal, Introduction to air pollution, Techno

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2-A 01017 2016

Science Publications (TR).

22. Wagner K.D., 1998, Environmental Management, W.B. Saunders co. Philadelphia, USA 499p.

23. Atext book environmental education G.V.S. Publishers byDr. J.P. Yadav.

(M) Magazine

(R) Reference

(TB) Textbook

The scheme of the paper will be asunder :

The subject of Environmental Studies will be included as a qualifying paper in all UG Courses (including professional courses also) and the students will be required to qualify the same otherwise the final result will not be declared and degree will not be awarded. Annual System : The duration of the course will be 50 lectures. The examination will be conducted alongwith with the annual examinations. Wherever semester system prevails the environmental Course of 50 lectures will be conducted in the second semester and the examination shall be conducted at the end of the second semester.

Exam. Pattern : In case of awarding the marks, the question paper will carry 100 marks. Theory : 75 marks, Practical : 25 marks. The structure of the question paper will be:

Part- A: Short Answer Pattern : 25 marks

Part- B : EssayType with inbuilt choice: 50 marks

Part-C : Field Work (Practical) : 25 marks

Instructions for Examiners :

Part- A : Question No. 1 is compulsory and will contain ten short- answer type question of 2.5 marks each covering the entire syllabus

Part-B : Eight essay type questions (with inbuilt choice) will be set from the entire syllabus and the candidate will be required to answer any four of them. Each question will be of 12.5 marks.

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2A 01072016

6/7

The examination of the regular students will be conducted by the concerned college/Institute. Each student will be required to score minimum 35% marks separately in theory and practical. The marks in this qualifying paper will not be included in determining the percentage of marks obtained for the award of degree. However, these marks will be shown in the detailed marks certificate of the students.

ATTESTED

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

Coordinator
IQAC
S.J.K. College, Kalanaur

1.3.2 A 01 07 2016

ADVANCE POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS (APGDCA) (Regular)

SCHEME OF EXAMINATIONS
With effect from : 2015-16

Semester - 1

Paper Code	Title of Paper	External marks	Internal Assessment	Total Marks
APGDCA-101	Foundation Course in IT And MS-Office -2000	80	20	100
APGDCA-102	Computer Networking & Multimedia	80	20	100
APGDCA-103	Programming in C and Data Structure	80	20	100
APGDCA-104	Computer Organization And Architecture	80	20	100
APGDCA-105	Practical-1 (Based on APGDCA-101 & 103)	80	20	100

Semester - 2

Paper Code	Title of Paper	External marks	Internal Assessment	Total Marks
APGDCA-201	VISUAL C++	80	20	100
APGDCA-202	Visual Basic & Oracle	80	20	100
APGDCA-203	System Analysis & Design	80	20	100
APGDCA-204	Practical-II (Based on APGDCA-201& 202)	80	20	100
APGDCA-205	Project Work, Report & Viva-Voce (Based on any Language, Software Development Tool, etc.)	80	20	100

ATTESTED

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

Coordinator
IQAC
S.J.K. College, Kalanaur

1.3.2 C 01072016

ADVANCE POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS
APGDCA (Regular)
First Semester With effect from : 2015-16

FOUNDATION COURSE IN IT & MS-OFFICE 2000
PAPER CODE : APGDCA-101

External: 80
Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit

Unit -1

Introduction: Historical evolution of computers, Classification of computers, Model of a digital computer, functioning of a digital computer, Why computers are useful? Human being Vs computer, Computer as a tool, Applications of computers (desktop publishing, sports, design and manufacturing, research and design, military, robotics, planning & management, marketing, medicine & health care, arts, communications).

Number systems and Boolean Algebra : What is Number system, necessity of binary number system, binary, octal and hexadecimal number system, inter-conversion of numbers, binary arithmetic.

Unit - 2

Input/Output Devices : Punched cards, card-readers, key-punching machines, keyboards, mouse, joysticks, trackballs, digitizer, voice-recognition, optical-recognition, scanners, terminals, point-of-sale terminals, machine-vision systems. Hard- copy devices : Print quality, Impact printers - DMPs, Daisy-wheel printers, Line-printers, Drum printers, Chain printers; Non-impact printers - Inkjet, Laser, Thermal, LED; Plotters. Soft-copy devices : monitors, video-standards (VGA and SVGA).

Memory & Mass Storage Devices: Characteristics of memory systems, types of memory, RAM, ROM, magnetic disks - floppy disk, hard-disk; optical disks - CD, CD-I, CD-ROM; Magnetic tapes; Concepts of Virtual and Cache memory.

Unit-3

Software Concepts : Introduction, types of software - System & Application software; Language translators - Compiler, Interpreter, Assembler; Operating system - Characteristics, bootstrapping, types of operating, operating system as a resource manager; BIOS; System utilities - Editor, Loader, Linker, File Manager. Concept of GUI, GUI standards.

Social Concerns : Positive and Negative Impacts of Computer Technology, Viruses and their types, Computer Crimes.

Unit-4

MS-Office 2000

- ***MS-Word :*** Introduction to MS-Word, Standard Toolbar, WordWrap, Text formatting, Formatting Paragraphs, Aplying Effects to Text, Applying Animation to Text.
- ***MS-Excel :*** Introduction to MS-Excel, Working with Toolbars, Formatting, Formulas, Data Management, Graphs & Chart, Macros, and other additional Functions.
- ***MS-PowerPoint :*** Introduction, PowerPoint Slide Creation, Slide-show, Adding Graphics, Formatting, Customizing and Printing.

SUGGESTED READINGS

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 c 01 07 2016

1. Gill Nasib Singh: Computing Fundamentals and Programming in C, Khanna Books Publishing Co., New Delhi.
2. Balagurusamy E, Computing Fundamentals and C Programming, Tata McGraw Hill.
3. Norton, Peter, Introduction to Computer, McGraw-Hill
4. Leon, Alexis & Leon, Mathews, Introduction to Computers, Leon Tech World
5. Rajaraman, V., Fundamentals of Computers, PHI
6. Ram, B., Computer Fundamentals, Architecture & Organization, New Age International (P) Ltd.
7. Chhillar, Rajender Singh: Application of IT to Business, Ramesh Publishers, Jaipur.
8. Gill, Nasib Singh: Essentials of Computer and Network Technology, Khanna Books Publishing Co., New Delhi

Note: Latest and additional good books may be suggested and added from time to time.

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College

1.3.2 c 01072016

COMPUTER NETWORKING & MULTIMEDIA

PAPER CODE: A PGDCA - 102

Theory Marks: 80
Internal Assessment: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit

Unit-1

Introduction to Computer Network, Why Computer Network ? Key Issues for Computer Network, Types of Network : LAN, WAN and MAN; Criteria for Classification of Computer Network, LANs : Hardware requirements for LAN, Transmission Channel for LAN, Network Interface Unit, Servers & Workstations, LAN Software. Introduction to Ethernet, Token Ring : Basics and Working, Cables, ring speed. WAN : Transmission Channel for LAN, hardware requirements : Bridges, Routers, Gateways. Private Networks, Public Networks : ISDN, PSTN, PSDN, Value Added Networks.

Unit-2

Connecting PCs : Simple switches, Printer sharing buffers, Zero-slot LANs, Media sharing LANs, Printer Servers, Client and Servers, Interface Cards, Media Access Control, Operating System features, OSI Model, TCP/IP Model, Data encoding & Communication Techniques, Multiplexing and Communication Hardware

Network topology, Network Protocols, Applications of Computer Network. Distributed data rocessing, Teletext and Videotext Networks

Communication Channels : Wire cables (Telegraph, telephone, twisted-pair, co-axial), Microwave, Fibre-optics, Communication satellites; Channel sharing, data-transmission

Unit-3

Introduction to multimedia technology - Computers, Communication and Entertainment; Framework for multimedia systems; M/M devices, presentation devices and the user interface; M/M presentation and authoring; Digital representation of sound and transmission; brief survey of speech recognition and generation; digital video and image compression; JPEG image compression standards; MPEG motion video compression; DVI technology; time-based media representation and delivery.

Unit-4

Audio Compression and Decompression, Audio Synthesis, MIDI, Speech Recognition & Synthesis, Video Capturing, Compression & Decompression, Real-time 3D, LANs and Multimedia.

Applications of M/M; Intelligent M/M system, Desktop Virtual Reality (VR), VR operating System, Virtual environment displays and orientation tracking; visually coupled system requirements; intelligent VR software systems. Applications of environments in various fields viz. Entertainment, manufacturing, business, education, etc.

SUGGESTED READINGS

1. Michael A. Gallo, William M. Hancock, "Computer Communications and Networking Technologies", CENGAGE Learning.
2. Andrew S. Tanenbaum, "Computer Networks", Pearson Education.
3. James F. Kurose, Keith W. Ross, "Computer Networking", Pearson Education.
4. Behrouz A Forouzan, "Data Communications and Networking", McGraw Hill.

Note: Latest and additional good books may be suggested and added from time to time

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 C 01 07 2016

4/13

PROGRAMMING IN C AND DATA STRUCTURE

PAPER CODE: A PGDCA - 103

Theory Marks: 80
Internal Assessment: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit

Unit-1

Introduction to Problem Solving : Top Down Design, Algorithm, Characteristics of Algorithm, Implementation of Algorithms, Efficiency of Algorithms, Analysis of Algorithm..

Fundamental algorithms, Array Techniques, Merging, Sorting & Searching Techniques, Text Processing and Pattern Search, Dynamic Data Structure Algorithms, Recursive Algorithms.

Elements of Program Style, Flowcharts : Flowchart Symbols, Its Types, Benefits and Limitations; Decision Tables, Pseudocodes : Using User Input, Files, Reports and Output on Paper/Console; Practice of Algorithm Development and Flowcharting

Unit-2

C Programming: Basic concepts of programming, problem solving, algorithm designing and flowcharting, concept of structured programming, evolution of C language, advantages of C, variables and constants, operators, expressions, loops, arrays, functions, structures, pointers, file-handling.

Unit-3

Data Structure: Fundamental Notations: Primitive and Composite data types. Time and Space complexity of algorithms.

Data structures: Arrays, Stacks, Queues, Linked Lists, Trees and Graphs.

Unit-4

File Structures: Concepts of fields, records and files. Sequential file organisation, ISAM, Hashing techniques, Inverted Lists and Multilists.

Sorting: Internal and External sorting. Searching techniques and Merging algorithms

SUGGESTED READINGS

1. Gill Nasib Singh: Computing Fundamentals and Programming in C, Khanna Books Publishing Co., New Delhi.
2. Balagurusamy, E., Programming in ANSI C, 4E, Tata McGraw-Hill
3. Jeri R. Hanly & Elliot P. Koffman, Problem Solving and Program Design in C, Addison Wesley.
4. Yashwant Kanetker, Let us C, BPB.
5. Seymour Lipschutz, "Data Structure", Tata-McGraw-Hill
6. Trembley, J.P. And Sorenson P.G., "An Introduction to Data Structures With Applications", Mcgrraw- Hill International Student Edition, New York.

Note: Latest and additional good books may be suggested and added from time to time

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 c 01/07/2016

COMPUTER ORGANISATION AND ARCHITECTURE

PAPER CODE: A PGDCA - 104

Theory Marks: 80
Internal Assessment: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit

Unit-1

Representation of Information : Number Systems, Integer and Floating-point representation, Character codes – ASCII and EBCDIC

Basic Building Blocks and Circuit Design : OR, AND, NOT, XOR Gates; De Morgan's theorem, Universal building blocks, laws and theorems of boolean algebra, Simplifying logic circuits – sum of product and product of sum form, algebraic simplification, Karnaugh simplification; arithmetic circuits; flip-flops, counters; shift registers; encoder, decoder, multiplexor, demulti-plexor circuits.

Register transfer and Micro-operations: Register Transfer Language, Bus and memory. Transfers, Arithmetic. Logic Micro-operations, Shift Micro-operations

Unit-2

Basic Computer Organization and Design: Instruction and instructions Codes, Computer instructions, Timing and Control, Instruction Cycle, Memory Reference Instructions, Input-Output and Interrupts; Complete Computer Description.

Programming the Basic Computer: Machine Language, Assembly Language, The assembler, program loops, programming Arithmetic and Logic, Subroutines, Inputs-Outputs programming. Micro-programmed Control; Control Memory, Address Sequencing, Micro-programe Example, Design of Control Unit.

Unit-3

Central Processing Unit: General Register Organization Stack Organization Instruction Formats, Addressing Modes, Data and Transfer Manipulation, Program Control, Reduced Instruction Set Computer, Pipeline and Vector Processing parallel processing Pipelining, Arithmetic Pipeline, RISC Ouoekubem Vector Processing, Arrays Processors

Unit-4

Computer Arithmetic: Addition and Subtraction, Multiplication Algorithms, Division algorithm, Floating-Point Arithmetic Operations, decimal arithmetic Unit, Decimal Arithmetic Operations.

Input-Output Organization: Peripheral Devices, Input-Output interface, Asynchronous Data Transfer, Modes of transfer, Priority interrupt, Direct Memory Access(DMA), input-output processors(IOP), serial communication multi-processors, characteristics of multi-processors, Inter-connection structures, Inter-processor Arbitration, Inter-processor Communication and Synchronization, Cache Coherence.

SUGGESTED READINGS

1. Gill, Nasib Singh and Dixit J.B.: Digital Design and Computer Organisation, University Science Press (Laxmi Publications), New Delhi.

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2.C01072016

6/13

2. M. Morris Mano, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd.
3. V. Rajaraman, T. Radhakrishnan, An Introduction to Digital Computer Design, Prentice Hall of India Pvt. Ltd.
4. Andrew S. Tanenbaum, Structured Computer Organization, Prentice Hall of India Pvt. Ltd.
5. Nicholas Carter, Schaum's Outlines Computer Architecture, Tata McGraw-Hill

Note: Latest and additional good books may be suggested and added from time to time.

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 C0107 2016

PRACTICAL I

PAPER CODE: A PGDCA 105

External Marks: 80
Internal Assessment: 20

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 C 01072016

Second Semester
VISUAL C++

PAPER CODE: A PGDCA - 201

Theory Marks: 80
Internal Assessment: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit

Unit-I

Visual C++ Basic: Introduction, Building a Basic Application, SDI and MDI. Writing text and drawing graphics, Message boxes, Keyboard and its messages, mouse and its messages.
Visual C++ Resources: Creating Icons, Cursor and Bitmaps. Menu and Accelerators, Toolbar, status bar.

Unit-II

Introduction to Child Window Controls. Check boxes, buttons, list box, Static control, Combo box, edit box, Scroll bars.
Dialog Box: model and modeless dialog box, mechanism of dialog box property page and property sheet

Unit-III

Advance Window Controls: Toolbars up down controls, Spin control, Progress bar, Tree view, Tab controls, Tool tip, slider control, image list control.

Unit-IV

Working with Graphics, Consoles, Multitasking Process and Threads. Clipboard Drag and Drops, Advance features of Windows Programming GDI Metafiles, Sound API, DLL,

.

Suggested Readings:

1. Charles Petzold: Windows Programming, Microsoft Press.
2. Herbett Schildts: Windows Programming, TMH.
3. Murray: VC++, TMH.
4. Steve Holzner: Introduction to VC++.
5. Any other book(s) covering the contents of the paper in more depth.

Note: Latest and additional good books may be suggested and added from time to time

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 C 01 07 2016

9/13

VISUAL BASIC & ORACLE
PAPER CODE: A PGDCA - 202

Theory Marks: 80
Internal Assessment: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit

Unit-1

Visual Basic: Introduction, Analyzing, Controls and Properties, Coding, Loops, Dialog Boxes, Additional Controls- Option Buttons, Frames, Check Boxes, Scroll Bars, Timer Control, Procedures and Functions, Using Debugging Windows, Database Programming, Crystal Reports. Simple Active X controls.

Unit-2

Oracle: ***Introduction to Oracle*** : Overview of RDBMS, Getting started, Modules of Oracle, Invoking SQLPLUS, Data types, Data Constraints, Operators, Data manipulation - Create, Modify, Insert, Delete and Update; Searching, Matching and Oracle Functions.

Unit-3

- ***SQL*Forms*** : Basic concepts, Form Construction, Creating default form, user-defined form, multiple-record form,Master-detail form.
- ***PL/SQL Blocks in SQL*Forms*** : PL/SQL syntax, Data types, PL/SQL functions, Error handling in PL/SQL, package functions, package procedures, Oracle transactions.
- ***SQL*ReportWriter*** : Selective dump report, Master-detail Report, Control-break Report, Test report.
- ***QL*Menu :*** Various menu styles, using pull-down & bar-menu, Authorisation of SQL*Menu, Creating Oracle Menu, Granting Role Access, Generating & Executing Applications.

Unit-4

- ***Database Triggers*** : Introduction, Use & type of database Triggers, Database Triggers Vs SQL*Forms, Database Triggers Vs. Declarative Integrity Constraints, How to apply Triggers ?, BEFORE Vs. AFTER Trigger Combinations, Creating a Trigger, Dropping a Trigger.
- ***Utilities*** : Export/Import, SQL*Loader.

Suggested Readings :

1. McBride, P.K. : Programming in Visual Basic, BPB Publ.
2. Holzner Steven : Visual Basic Programming, IDG Books India Ltd.
3. Artiken : Visual Basic for Programming Explorer, Comdex.
5. Using Visual Basic 6.
6. Any other book(s) covering the content of the paper in more depth.

Note : Latest and additional good books may be suggested and added from time to time

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1·3·2C01072016

10/13

SYSTEM ANALYSIS & DESIGN

PAPER CODE: A PGDCA - 203

Theory Marks: 80
Internal Assessment: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (short-answer type questions) covering the entire syllabus and will carry 16 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 16 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

Unit-1

Overview of system analysis and design. Definition and characteristics of a system, Elements of system, Types of system, system development life cycle, project selection, feasibility, analysis, design, implementation, testing and evaluation.

Unit-2

Project Selection : Source of Project requests, managing project review and selection, preliminary investigation. Feasibility Study : Technical and economical feasibility, cost and benefit analysis

System requirement specification and Analysis : Fact finding techniques, Data flow diagrams, data dictionaries, process organization and interactions, Decision analysis, decision trees and tables.

Unit -3

System Design: System design objective, Logical and physical design, Design Methodologies, structured design, Form-Driven methodology(IPO charts), structured walkthrough, Input/Output and form design: Input design, Objectives of input design, Output design, Objectives of output design, Form design, Classification of forms, requirements of form design, Types of forms, Layout considerations, Form control.

UNIT-4

System testing: Introduction, Objectives of testing, Test plan, testing techniques/Types of system tests, Quality assurance goals in system life cycle, System implementation, Process of implementation, System evaluation, System maintenance and its types, System documentation, Forms of documentation.

SUGGESTED READINGS

1. Systems Analysis and design BY e.m. aWAD Galgotia Pub.(P) Ltd.
2. Data Management and Data Structures by Loomis (PHI)
3. System Analysis and Design by Elias Awad.
4. Introductory System analysis and Design by Lee Vol. I & II

Note: Latest and additional good books may be suggested and added from time to time.

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 C 01 07 2016

11/13

PRACTICAL II

PAPER CODE: A PGDCA 204

External Marks: 80
Internal Assessment: 20

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 C 01072016

12/13

PAPER CODE: A PGDCA 205

Project Work, Report & Viva-Voce

(Based on any Language, Software Development Tool, etc.)

External Marks: 80

Internal Assessment: 20

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 C 01072016

Department of Geography
Maharshi Dayanand University, Rohtak
Scheme of Examination
w. e. f. Session 2015-16

B.A. Geography (Pass Course)

Paper No.	Title	Internal Assessment	External Assessment	Maximum Marks	Time
	Semester-I				
101	Geography of India	15	60	75	3 Hours
102	Maps and scales (Practical)			25	3 Hours
	Semester-II				
103	Physical Geography I	15	60	75	3 Hours
104	Representation of Physical Features (Practical)			25	3 Hours
	Semester-III				
201	Physical Geography II	15	60	75	3 Hours
202	Representation of Climate Data (Practical)			25	3 Hours
	Semester – IV				
203	Human Geography	15	60	75	3 Hours
204	Maps projections (Practical)			25	3 Hours
	Semester – V				
301	Economic Geography	15	60	75	3 Hours
302	Distribution Maps and Diagrams (Practical)			25	3 Hours
	Semester- VI				
303	Introduction to Remote Sensing, GIS and Quantitative Methods	15	60	75	3 Hours
304	Introduction to Remote Sensing and Field Survey Report (Practical)			25	3 Hours

Coordinator
IQAC
S.J.K. [illegible]

ATTESTED

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3-2 B 01 07 2016

Paper – 202 Representation of Climatic Data (Practical)

Maximum Marks: 25
Time : 3 Hours

Distribution of Marks
Exercises = 15
Record File = 05
Viva-voce = 05

Note: There will be four questions in all and candidate has to attempt three exercises.

1. Measurement of temperature, rainfall, pressure and humidity.
2. Representation of temperature and rainfall.
   (i) Line and Bar Graph – 1 Exercise.
   (ii) Distribution of temperature (180 therms) – 1 Exercise.
   (iii) Distribution of rainfall (180 hytes) – 1 Exercise.
   (iv) Hythergraph - 1 Exercise.
   (v) Rainfall deviation diagram - 1 Exercise.
3. Climograph (wet and dry places) - 2 Exercise.
4. Distribution of pressure (180 bars) - 2 Exercise.
5. Weather map Interpretation (January & July) - 2 Exercise.
6. Change and tape survey – 2 Exercise.

Suggested Readings:

1. Mishra R.P. and Ramesh A. 1999. Fundamentals of Cartography, Concept Publishing Company, New Delhi.
2. Monkhouse, FJ, and Wilkinson H.R., 1972. Maps and Diagrams, Methuen Press, London
3. Robinson, A.H. et.al. Elements of Cartography, John Wiley & Sons, 1995.
4. Singh, R.L., 1979. Elements of Practical Geography, Kalyani Publisher, New Delhi.

Coordinator
IQAC
S.J.K. College, Kalanaur

ATTESTED

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 B01072016

Paper 201 Physical Geography-II

Internal Assessment Marks: 15
External Assessment Marks: 60
Maximum Marks : 75
Time : 3 Hours

Note: There shall be nine questions in all. The candidates have to attempt five questions including Question 1 which is compulsory comprising six short questions to be answered in 15-20 words each. In addition the candidates have to attempt four more questions selecting at least one from each section. All questions carry equal marks.

SECTION-A

1. Weather and Climate; Origin, composition and structure of atmosphere.
2. Insolation, Global heat budget, Horizontal and vertical distribution of temperature, inversion of temperature.

SECTION-B

3. Atmospheric pressure- measurement and distribution, pressure belts, planetary winds, Monsoon, Jet Streams EL NINO- La Nina Phenomenon and Local winds.
4. Humidity- measurement and variables, evaporation, condensation, precipitation forms and types and distribution, hydrological cycle.

SECTION-C

5. Air masses- concept and classification; Fronts- type and characteristics, Weather disturbances- tropical and extra-tropical cyclones.
6. Climate classification by Koppen; climatic change and global warming.

SECTION-D

7. Configuration of oceanic floors and surface relief of Pacific, Atlantic and Indian Oceans; temperature and salinity of oceans.
8. Tides, waves and oceanic currents; circulation in Pacific, Atlantic and Indian Oceans; Oceanic resources.

Suggested Readings:

1. Barry, RG and Chorley R.J., Atmosphere, Weather and Climate, Routledge, 1998.
2. Critchfield, H., General Climatology, Prentice-Hall of India, 2002.
3. King, C. Oceanography for Geographers, Edward Arnold, London, 1975.
4. Trewartha, GT: An Introduction to Climate, Mc-Graw Hill, New York, 1981.
5. Trewartha, G.T., The Earth's Problems Climates, University of Wisconsin Press, USA.

Paper 204 Maps Projections (Practical)

Maximum Marks: 25
Time : 3 Hours

Distribution of Marks
Exercises = 15
Record File = 05
Viva-voce = 05

Note: There will be four questions in all and candidate has to attempt three exercises.

Total Exercises = 15

1. Introduction to Map Projection: Meaning, Classification and importance; Characteristics of latitudes and longitudes lines.
2. Cylindrical projections: Characteristics, applications and drawing; (3)
   (i) Simple cylindrical projection
   (ii) Cylindrical equal area projection.
   (iii) True shape or orthomorphic or Mercator's Projection. (5)
3. Conical Projections: Characteristics, applications and drawing.
   (i) Simple conical projections with one standard parallel
   (ii) Simple conical projection with two standard parallel
   (iii) Bonne's Projection
   (iv) Polyconic projection.
   (v) International Map Projection.
4. Zenithal Projections: Characteristics, applications and drawing. (5)
   (i) Polar Zenithal Equidistant Projection.
   (ii) Polar Zenithal Equal Area Projection
   (iii) Polar Zenithal Gnomonic Projection
   (iv) Polar Zenithal Stereographic Projection.
   (v) Polar Zenithal Orthographic Projection
5. Characteristics, applications and drawings of (i) Sinosoidal and (ii) Mollweide Projections. (2)
6. Plane Table Survey. (2)

Suggested Readings:-

1. Goyal K.K.1981.. Practical Geography, Manthan Publication, Rohtak.
2. Gregory S. 1963. Statistical Methods and the Geography, Longman, London.
3. Khan, A.A. 1996. Text Book of Practical Geography, Concept, New Delhi,.
4. Lawarence, GRP1968. Cartographic Methods, Methuen, London,.
5. Monkhouse, F.J. and Wilkinson, H.R1994. Maps and Diagrams, Methuen, London,
6. Pal. S.K. 1998: Statistics for Geoscientist- Techniques and Applications, Concept Publication, New Delhi,.
7. Sarkar, A.K 1997: Practical Geography-A Systematic Approach, Orient Longman, Calcutta,.
8. Singh, R.L. 1972. Elements of Practical Geography, Kalyani Pub., New Delhi
9. Steers, J.B. Map Projections; University of London Press, London.

ATTESTED

Coordinator
IQAC
S.J.K. College, Kalanaur

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 B 01 07 2016

Paper 203 Human Geography

Internal Assessment Marks: 15
External Assessment Marks: 60
Maximum Marks : 75
Time : 3 Hours

Note: There shall be nine questions in all. The candidates have to attempt five questions including Question 1 which is compulsory comprising six short questions to be answered in 15-20 words each. In addition the candidates have to attempt four more questions selecting at least one from each section. All questions carry equal marks. **Section -I**

1. Nature and scope of Human Geography, Branches of Human Geography, Approaches to the study of Human Geography.
2. Division of Mankind: Spatial distribution of race and tribes of India; concept of men-environment relation : A historical approach.

Section - II

3. Human adaptation to the environment (i) Cold region – Eskimo (ii) Hot region- Bushman (iii) Plateau – Gonds (iv) Mountains – Gujjars
4. Meaning, nature and components of resources; Classification of resources – renewal and non- renewable ; biotic and aboitic, recyclable and non recyclable.
   Distribution, utilization and conservation of biotic (flora and fauna) and aboitic (water, minerals and energy) resources.

Section - III

5. Distribution and density of world population, population growth, fertility and mortality patterns.
6. Concept of over, under and optimum population; Population theories: Malthus, Ricardo and Marx.

Section-IV

7. Rural settlements: Meaning, classification and types. Urban settlements: Origin, classification and functions of towns.
8. Population pressure, resource use and environment degradation; sustainable development, concept of deforestation, soil erosion, air and water pollution.

Coordinator
IQAC
S.J.K. College, Kalanaur

ATTESTED

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2B 01072016

Suggested Readings:-

1. Agarwal, A etal : The Citizen's Fifth Citizen's Report, Centre for Science & Environment, New Delhi, 1999.
2. Alexander, John. W. : Economic Geography, Prentice Hall of India Ltd., New Delhi, 1988.
3. Bergwan, Edward E: Human Geography: Culture Connections and Landscape, Prentice-Hall, New Jersey, 1985.
4. Carr, M. Patterns: Process and Change in Human Geography, McMillan Education, London, 1987.
5. Chandna, R.C. : A Geography of Population : Concepts, Determinants and Patterns, Kalyani Publishers, New Delhi, 1986.
6. DeBlij, H. J. : Human Geography, Culture, Society and Space, John Wiley, New York, 1996.
7. Fellman, J.L. : Human Geography-Landscapes of Human Activities, Brown and Benchman Pub., USA, 1997.
8. Global Environment Outlook: Earthscan, London, 2000.
9. McBride, P.J. Human Geography; Systems Patterns and Change, Nelson, UK and Canada, 1996.
10. Michael, Can: New Patterns : Process and Change in Human Geography, Nelson, 1996.

Coordinator
IQAC
S.J.K. College, Kalanaur

ATTESTED

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1.3.2 B 01/07/2016

Paper 302 Distribution Maps and Diagrams (Practical)

Maximum Marks: 25
Time : 3 Hours

Distribution of Marks
Exercises = 15
Record File = 05
Viva-voce = 05

Note: There will be four questions in all and candidate has to attempt three exercises.

1. Principal of map design and layout
2. Symbolization: point, line and area symbol
3. Lettering and toponomy
4. Mechanics of map construction
5. Distribution maps
   (i) Qualitative distribution maps
   - Choroschematic maps- 1 Exercise
   - Chorochromatic maps- 2 Exercise

   (ii) Quantitative distribution Maps
   - Isopleth maps-3 Exercises
   - Choropleth maps-3 Exercises
   - Dot maps-3 Exercises
   - Diagrammatic maps- 3 Exercises.
6. Prismatic Compass Survey – 2 Exercises.

Suggested readings:

1. Mishra RP and Ramesh A. 1999. Fundamentals of Cartography, Concept Publishing Company, New Delhi.
2. Monkhouse FJ and Wilkinson HR. 1972. Maps and Diagrams, Methuen Press, London
3. Singh Gopal. 2004. Map Work and Practical Geography, Vikas Publication House, New Delhi.
4. Singh RL. 1979. Elements of Practical Geography, Kalyani Publishers, New Delhi

Coordinator
IQAC
S.J.K. College, Kalanaur

ATTESTED
Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

1·3·2B 01/07/2016

Paper 301 Economic Geography

Internal Assessment Marks: 15
External Assessment Marks: 60
Maximum Marks : 75
Time : 3 Hours

Note: There shall be nine questions in all. The candidates have to attempt five questions including Question 1 which is compulsory comprising six short questions to be answered in 15-20 words each. In addition the candidates have to attempt four more questions selecting at least one from each section. All questions carry equal marks.

Section A

1. Nature, scope and relationship of economic geography with economics and other branches of social sciences.
2. Classification of economic activities and their impact on environment.

Section B

3. World natural resources: Types, bases and classification.
4. Conservation and utilization of natural resources.

Section C

5. Spatial distribution of food (rice and wheat), commercial (cotton and sugarcane) and plantation crops (tea, rubber and coffee).
6. Classification of mineral resources (ferrous and non-ferrous), distribution and production of coal, iron ore, petroleum and natural gas.

Section D

7. Classification of industries, world distribution and production of iron and steel and textile industry, major industrial complexes of the world.
8. Transport, communication and trade: geographical factors in their development, major modes of water, land and air transport, recent trends in international trade

Suggested Readings:

1. Hartshorne TN and Alexander JW. 1988. Economic Geography, Prentice Hall, New Delhi.
2. Jones CF and Darkenwald GG. 1975. Economic Geography. McMillan Company, New York
3. Thomas, RS. 1962. The Geography of Economic Activities. McGraw Hill, New York.
4. Wheeler J et al. 1995. Economic Geography. John Wiley, New York.

Paper 304 – Introduction to Remote Sensing and Field Survey Report (Practical)

Maximum Marks: 25
Time: 3 Hours

I - Remote Sensing Practical -15 Marks

Marks Breakup
Exercise = 09
Record book = 03
Viva-voce = 03

Note: There will be four questions in all and candidate has to attempt three exercises.

1. Demarcation of Principal Point, Conjugate Principal point and Flight line on Aerial Photographs – 1 Exercise
2. Determination of Scale of Aerial Photographs – 1 Exercise.
3. Interpretation of Single Vertical Photographs – 1 Exercise.
4. Use of Stereoscope and Identification of Features – 1 Exercise.
5. Identification of Features on IRSID, LISS III imagery (Mark copy of FCC) -1 Exercise.

II Socio-economic Survey and Report Writing -10 marks.

Marks Breakup
Field Survey Report = 06 marks
Viva-voce = 04 marks

Suggested Readings:-

1. John R. Jensen, Remote Sensing of the Environment; An Earth Resource Perspective, Pearson Education, (India Edition) New Delhi, 2009.
2. Lillesand and R.W.Kiefer, Remote Sensing and Image Interpretation, John Wiley and Sons, 1994.

ATTESTED

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

Coordinator
IQAC
S.J.K. College, Kalanaur

1·3·2·B01072016

Paper-303-Introduction to Remote Sensing, GIS & Quantitative Methods

Internal Assessment Marks: 15
External Assessment Marks: 60
Maximum Marks : 75
Time : 3 Hours

Note: There shall be nine questions in all. The candidates have to attempt five questions including Question 1 which is compulsory comprising six short questions to be answered in 15-20 words each. In addition the candidates have to attempt four more questions selecting at least one from each section. All questions carry equal marks.

Section-A

1. Introduction to Aerial Photographs: their advantages and types.
2. Elements of aerial Photo interpretation.

Section-B

3. Introduction to Remote Sensing; Electromagnetic spectrum, stages in remote sensing, type of satellites.
4. Types of Imageries and their application in various fields such as agriculture, environment and resource mapping.

Section-C

5. Introduction to Geographical Information System: Definition, purpose, advantages and software and hardware requirements.
6. Application of GIS in various fields of geography.

Section-D

7. Measure of Central Tendency: Mean, Median and Mode.
8. Measure of Dispersion: Range, Quartile deviation and Mean deviation, Standard deviation, Coefficient of variation.

Suggested Readings:

1. Aslam Mahmood 1993. Statistical Methods in Geographical Studies, Rajesh Publications, New Delhi,.
2. John R. Jensen 2009. Remote Sensing of the Environment;, An Earth Resource Perspective, Pearson Education, (India Edition) New Delhi,
3. Kumar Meenakshi 2001. Remote Sensing, NCERT, New Delhi,
4. Lillesand and R.W.Kiefer,2005. Remote Sensing and Image Interpretation, John Wiley and Sons.
5. Pritvish Nag, and M.Kudrat 1998. Digital Remote Sensing, Concept Publishing Company, New Delhi,.

Coordinator
IQAC
S.J.K. College, Kalanaur

1.3.2 30/07/2016

ATTESTED
Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana

SAT JINDA KALYANA COLLEGE, KALANAUR–124113 (ROHTAK)
Phone: 01258-222439, 222039, 8607022439 e-mail: sjkc@rediffmail.com
Accredited 'B' Grade by NAAC and ISO 9001-2015 Certified Institute www.sjkc.ac.i
AFFILIATED TO MAHARSHI DAYANAND UNIVERSITY ROHTAK (HARYANA)

Ref. No.....

Dated 26-04-2022

TO WHOM IT MAY CONCERN

Attendance and Completion Certificate of Filed Work/Project Work

This is to certify that the information given in excel format (metric 1.3.3) belongs to our institution and also certified that students whose name/roll no./class/subject etc appear in this excel sheet have attended and successfully completed their filed work/project work.

(Dr N.K.Dua)
Principal

ATTESTED

Principal
Sat Jinda Kalyana College
Kalanaur (Rohtak) Haryana