

PGDLAN

**Post Graduate Diploma
in
Library Automation and Networking**

**Assignments
For January 2017 and July 2018 Sessions**



**Faculty of Library and Information Science
School of Social Sciences
Indira Gandhi National Open University
Maidan Garhi-110068**

DATES FOR SUBMISSION OF ASSIGNMENTS

FOR JANUARY SESSION

30th September 2017

FOR JULY SESSION

31st March 2018

WHERE TO SUBMIT THE ASSIGNMENTS

Kindly submit your assignments at the concerned Study Centre/TLC within the due dates as mentioned above

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Part – A : C++

Part – B : Visual Basic

Part – C : Java

INSTRUCTIONS FOR ASSIGNMENTS

As a part of PGDLAN Programme, each candidate has to do two Tutor Marked Assignments (TMAs), in all the seven courses except course MLIP – 008: Project. These TMAs comprise theoretical as well as practical assignments.

Assignments carry 20% weightage in the continuous evaluation process of a course. The term-end examinations carry 80% weightage.

The assignments will be evaluated by the Counsellors at the Study Centres/TLCs and the respective weightage of marks will be added to their percentage of marks obtained at the term-end examination. Each candidate will have to complete assignments in order to appear in the term-end examination. Candidates are, therefore, advised to take assignments seriously and submit them in time.

INSTRUCTIONS FOR TUTOR MARKED ASSIGNMENTS

- 1) *The validity of the assignment is ONE YEAR. Those who take admission in January session have to attempt the assignments of January session only. If they fail to submit their assignments before the due date of the particular session, they are supposed to attempt the fresh set of assignments of subsequent January session (e.g. if a student of January 2017 session fails to submit his/her assignments till 30th September 2017, he/she will have to attempt the fresh assignments of January 2018 session). Similarly, those who take admission in July session have to attempt the assignments of July session only. If they fail to submit their assignments before the due date of the particular session, they are supposed to attempt the fresh set of assignments of subsequent July session (e.g. if a student of July 2017 session fails to submit his/her assignments till 31st March 2018, he/she will have to attempt the fresh assignments of July 2013session).*
- 2) Write your Enrolment Number, Name, Full Address and Date of Dispatch at the top right-hand corner of the first page of your answer sheet.
- 3) Write the Programme Title, Course Title, Assignment Number, Code and Place of the Study Centres/ TLC on the left-hand corner of the first page of your answer sheet.

The top of the first page of your answer sheet for each assignment should be as follows:

Programme Title	Enrolment No.
Course Code & Title.....	Name
Assignment Number	Address
Study Centre/TLC (Code).....
Study Centre/TLC.....
(Place)	
.....	Date

Note: Candidates are required to follow this format strictly otherwise the assignments will not be evaluated.

- 4) Your answer sheet should be complete in all respects. Make sure that you have answered all the questions in assignments before you submit them. Incomplete answer sheets will lead to poor marks.
- 5) As far as possible students are advised to give the relevant points from the course material and elaborate their answers and explanations in their own language instead of reproducing the language of the course materials.
- 6) You are advised not to copy from the study material while attempting the assignments. In case **it is found that the assignments have been copied from study material, you will be awarded zero marks.**
- 7) Avoid copying from the answer sheets of other students. If copying is noticed, the assignments of such students will be rejected.

- 8) Use only foolscap size paper for your answers, ordinary writing paper, neither too thick nor too thin, will do.
- 9) Leave 3" margin on the left and at least 4 lines in between each answer in an assignment. This will enable your Counsellor to write useful comments in appropriate places. Write question number for each answer.
- 10) The Coordinator of your Study Centre/TLC will return the evaluated assignments to you. This will also include a copy of assessment sheet containing global comments of the evaluator on your performance in the assignments. This will enable you to improve in your future assignments as well as in the term-end examinations.
- 11) The Tutor Marked Assignments should be sent to the Coordinator / Programme In-charge of the Study Centre/TLC allotted to you.

PRACTICAL ASSIGNMENTS

Assignment No. 2 of each course (TMA – P), which is for practical, is to be carried out at Study Centres/ TLCs. These have to be submitted/shown to the concerned counsellors.

MLI-001: Introduction to Computers

TMA-Theory

Coverage:

Course Code: MLI- 001

Course: Introduction to Computers

Assignment Code: AST/TMA–T/Jan. & Jul.2017

Blocks: 1 to 3

Units: 1 to 9

Total Marks: 50

I) Answer *any two* of the following questions in *not more than 1000 words each*.

- 1) What is multiprogramming? Discuss multiprogramming operating systems. (15)
- 2) What is meant by secondary storage? Explain any two secondary storage devices. (15)
- 3) Explain the different housekeeping functions that can be automated in a library. (15)

II) Answer *any four* of the following questions in *not more than 500 words each*.

- 1) Describe how mail merge facility is used in MS-Word. (5)
- 2) Differentiate between system software and application software giving examples. (5)
- 3) Discuss the steps of building a spread sheet. (5)
- 4) Explain the components of the Linux system. (5)
- 5) Differentiate between wired and wireless modes of data transmission. (5)
- 6) Explain with examples direct access storage devices. (5)

MLIL-001: Introduction to Computers

TMA – Practical

Coverage:

Course Code: MLIL- 001

Course: Introduction to Computers

Assignment Code: AST/TMA–P/ Jan. &Jul.2017

Blocks: 1 to 3

Units: 1 to 9

Total Marks: 50

General Instructions for Practical Assignment:

- i) Documents, data, database, etc. to work on for the practical assignments will be provided by the Counsellor/Practical Supervisor in the Study/Tele Learning Centre.
- ii) You are required to do the practical assignment in the Study/Tele Learning Centre. Evaluation of the assignment will be done by the Counsellor/Practical Supervisor on the spot.
- iii) Make Screen Captures for all the answers and save them in one file. The Counsellor/Practical Supervisor will evaluate these screen captures and give marks accordingly.
- iv) All questions are compulsory.

1) Perform the following activities: (10)

A) DOS:

- (i) Create a new directory
- (ii) Create file named “Education txt”

B) WINDOWS:

- (i) Create a new file named PGDLAN on the desktop
- (ii) Create a folder named IGNOU in D:
- (iii) Cut the file named PGDLAN from desktop and paste it in the folder IGNOU
- (iv) Change the background of the desktop
- (v) Display a message on the screen whenever the keyboard is untouched for more than 3 minutes.

C) UNIX:

- (i) Create a new directory called gen within your home directory.
- (ii) Create a directory spl, within the directory gen.

- 2) Prepare a MS Word document, having one table with ten rows and four columns, bar chart and pie chart using different font size and styles for heading and text. (10)
- 3) Prepare a Power Point presentation consisting of 08 slides having text and pictures. Add different slide transition effects for each slide. Also add an organisational chart to a slide. (10)
- 4) Create a file in MS-EXCEL showing gender wise population of any fifteen states of India. Add a chart to present this data.. (10)
- 5) Prepare a database of around ten books with bibliographic details as per AACR2R in MS Access. Sort them by author name. (Titles will be provided by the Counsellor/ Supervisor). (10)

MLI-002: Library Automation
TMA-Theory

Coverage

Course Code: MLI-002

Course: Library Automation

Assignment Code: AST- 1/TMA-T/Jan. & July 2017

Blocks: 1 to 4

Units: 1 to 14

Total Marks: 50

I) Answer *any two* questions in *not more than 1000 words each*.

- 1) What do you understand by an integrated library automation system?
Discuss the factors involved in vendors providing such systems. (15)
- 2) Explain the data elements of ISBD (G) with examples. (15)
- 3) Describe the structure of a MARC record. (15)

II) Answer *any four* of the following in *not more than 500 words each*.

- 1) Discuss the features of an automated serials control system. (5)
- 2) Explain the problems associated with electronic document delivery service. (5)
- 3) Discuss the role of information intermediaries in providing online information. (5)
- 4) Explain with a flow-chart book ordering system in an automated environment. (5)
- 5) Discuss the merits and de-merits of in-house retrospective conversion. (5)
- 6) Discuss the criteria for evaluating a library automation software. (5)

MLI-002: Library Automation

TMA-Practical

Coverage

Course Code: MLIL-002

Course: Library Automation

Assignment Code: AST/TMA-P/Jan. & July 2017

Blocks: 1 to 4

Units : 1 to 14

Total Marks: 50

General Instructions for Practical Assignment:

- i) Documents, data, database, etc. to work on for the practical assignments will be provided by the Counsellor/Practical Supervisor in the Study/Tele Learning Centre.
- ii) You are required to do the practical assignment in the Study/Tele Learning Centre. Evaluation of the assignment will be done by the Counsellor/Practical Supervisor on the spot.
- iii) Make Screen Captures for all the answers and save them in one file. The Counsellor/Practical Supervisor will evaluate these screen captures and give marks accordingly.
- iv) All questions are compulsory.

-
- 1) (a) Create a database of 5 records each for publishers, suppliers, and binders with the following fields. Provide meaningful data on your own: Name, address with PIN code, contact person, email and contact no. (15)
 - (b) Generate the list of publishers, suppliers, and binders separately. (15)
 - 2) (a) Create a database of books and these (with 10 entries from each category) which have been newly procured. Provide meaningful data on your own. (10)
 - (b) (i) Generate catalogue cards for 3 books. (3)
 - (ii) Generate spine labels for any 3 books. (3)
 - (iii) Generate list of items by collection type. (4)

NB: The questions are based on the software package SOUL, which will be made available to you at the Study/Tele Learning Center.

MLI-003: Information Systems
TMA-Theory

Coverage

Course Code: MLI-003

Course: Information Systems

Assignment Code: AST/TMA-T/ Jan. & Jul. 2017

Blocks: 1 to 4

Units: 1 to 14

Total Marks: 50

- I) Answer *any two* of the following in *not more than 1000 words each*.
- 1) Define the concept 'information retrieval system'. Describe the models of information retrieval. (15)
 - 2) Discuss the structure, design and development of a Management Information System. (15)
 - 3) Define Expert Systems. Describe in detail their structure and major components. (15)
- II) Answer *any four* of the following in *not more than 500 words each*.
- 1) Describe the role of a system analyst. (5)
 - 2) Discuss the major issues involved in developing digital libraries. (5)
 - 3) Briefly describe Boolean search. (5)
 - 4) Explain the steps involved in system design process. (5)
 - 5) Explain the concept of key in data management. (5)
 - 6) Describe the basis of artificial intelligence and the key areas of its application. (5)

MLIL-003: Information Systems

TMA-Practical

Coverage

Course Code: MLIL-003

Course: Information Systems

Assignment Code: AST/TMA-P/ Jan. & Jul. 2017

Blocks: 1 to 4

Units: 1 to 14

Total Marks: 50

General Instructions for Practical Assignment:

- i) Documents, data, database, etc. to work on for the practical assignments will be provided by the Counsellor/Practical Supervisor in the Study/Tele Learning Centre.
- ii) You are required to do the practical assignment in the Study/Tele Learning Centre. Evaluation of the assignment will be done by the Counsellor/Practical Supervisor on the spot.
- iii) Make Screen Captures for all the answers and save them in one file. The Counsellor/Practical Supervisor will evaluate these screen captures and give marks accordingly.
- iv) Attempt the questions using SQL commands or MS – Access.
- v) All questions are compulsory.

-
- 1) Design a blank database “LIBRARY” using MS-ACCESS and add to it the following tables: (15)
 - (i) JOURNALS
 - (ii) VENDORSAdd the following fields in the ‘JOURNAL table in the ‘Design View’
 - (a) JOURNAL_ID Auto Number
 - (b) JOURNAL_TITLE Text 255 Null Not Allowed
 - (c) JOURNAL_SPONSOR Text 255 Null Not AllowedNow add 15 records in it using Data Sheet View.
 - 2) Add the following fields in the Table ‘SUBJECT’ – SUBJECT_ID, SUBJECT_NAME, AUTHOR_ID. Add 15 records in the table. (15)
 - 3) Make a relationship of JOURNAL_ID field in VENDORS table to the JOURNALS table using ‘Look Up Wizard’ in Design View. (5)
 - 4) Design E-R diagram for the database ‘DOCUMENTS’ to show relationship among the tables. (5)
 - 5) Add 15 records in VENDORS table in Data Sheet View. (10)

ML1-004: Networking and Internet Technology

TMA-Theory

Coverage

Course Code: MLI-004

Course: Networking and Internet Technology

Blocks: 1 to 3

Assignment Code: AST/TMA-T/ Jan. & Jul. 2017

Units: 1 to 14

Total Marks: 50

- I) Answer *any two* of the following in *not more than 1000 words each*.
- 1) Identify the components of computer network and describe their functions. (15)
 - 2) Make a comparative study of Internet, Intranet and Extranet. (15)
 - 3) Describe the salient features of Resource Sharing Guidelines formulated by IFLA. (15)
- II) Answer *any four of the following questions in not more than 500 words each*.
- 1) Describe different types of Network Topology. (5)
 - 2) What is ISDN? Describe its various devices. (5)
 - 3) What is Network Operating System? Describe its functions. (5)
 - 4) Discuss how the information technology can be useful for inter- library loan services. (5)
 - 5) Discuss the methods of electronic document delivery service. (5)
 - 6) Describe various communication network protocols. (5)

MLIL-004: Networking and Internet Technology

TMA-Practical

Coverage

Course Code: MLIL-004

Course: Networking and Internet Technology

Blocks: 1 to 3

Assignment Code: AST/TMA-P/ Jan. & Jul.2017

Units: 1 to 14

Total Marks: 50

General Instructions for Practical Assignment:

- i) Documents, data, database, etc. to work on for the practical assignments will be provided by the Counsellor/Practical Supervisor in the Study/Tele Learning Centre.
- ii) You are required to do the practical assignment in the Study/Tele Learning Centre. Evaluation of the assignment will be done by the Counsellor/Practical Supervisor on the spot.
- iii) Make Screen Captures for all the answers and save them in one file. The Counsellor/Practical Supervisor will evaluate these screen captures and give marks accordingly.
- iv) All questions are compulsory.

-
- 1) Enumerate the steps involved in setting-up network neighbourhood to share printers and files. (10)
 - 2) Identify the union catalogue of any two libraries and information networks from Internet and explore their scope. (10)
 - 3) Identify important library websites (minimum 5 Indian) and highlight their common services. (10)
 - 4) Compare the features of websites as identified at Question no. 3. (10)
 - 5)
 - a) Create e-mail id of your own in Hotmail and Yahoo. (4)
 - b) Generate a small paragraph in Word and send it as an attachment from Hotmail address to Yahoo address. (6)

MLI-005: Internet Resources

TMA-Theory

Coverage

Course Code:MLI-005

Course: Internet Resources

Assignment Code:AST/TMA-T/Jan.& Jul.2017

Blocks: 1to 2

Units: 1 to 7

Total Marks:50

- I) Answer *any two* of the following in *not more than 1000 words each*.
- 1) Mention the major categories of meta resources. Describe the different systems used in the organisation of meta resources. (15)
 - 2) Explain with the help of examples the variety of publishers available on the Internet for electronic information resources. (15)
 - 3) Distinguish between a digital library and a traditional library. Discuss the collection infrastructure needed to build a digital library. (15)
- II) Answer *any four* of the following in *not more than 500 words each*.
- 1) Discuss how 'examining the suitability of resources' is an important criteria for evaluating Internet information resources. (15)
 - 2) Highlight the issues associated with the preservation and archiving of digital resources. (5)
 - 3) What are the different categories of search engines? Describe the special features of Google search engine. (5)
 - 4) What do you understand by the term 'preprints'? Discuss some of the web resources which offer preprint searches. (5)
 - 5) List the categories of reference sources available on the Internet. Give your answer with suitable examples under each type. (5)
 - 6) Discuss the various means of keeping up to date with new information resources on the Internet. (5)

MLIL-005: Internet Resources

TMA-Practical

Coverage

Course Code:MLIL-005

Course: Internet Resources

Assignment Code: AST/TMA-P/Jan.&Jul.2017

Blocks: 1to2

Units:1 to 7

Total Marks:50

General Instructions for Practical Assignment:

- i) Documents, data, database, etc. will be provided by the Counsellor/Practical Supervisor in the Study/Tele Learning Centre to work on practical assignment.
 - ii) You are required to do the practical assignment in the Study/Tele Learning Centre.
 - iii) Make Screen Captures for all the answers and save them question wise in one file. Wherever necessary also save the output in MS Word. The Counsellor/Practical Supervisor will evaluate these Screen Captures/ MS Word files and give marks accordingly.
 - iv) All questions are compulsory.
-

- I) Browse the electronic version of the Indian Express newspaper.
 - List its different editions along with their URLs.
 - Select Delhi edition.
 - Browse the archives of its Delhi edition covering the last 15 days.
 - Select one article each from the editorial/opinion page of the newspaper for the selected 15 days.
 - ‘Clip’ the selected article then ‘clip and share’ and then ‘download’.
 - Save the articles in any form (word, pdf, image) in one Folder titled IE Editorial Items. (25)

- II) Browse the DOAJ (Directory of Open Access Journals)
 - Write down the total number of Journals, articles presently available in its database.
 - Also find out the number of countries participating in DOAJ.

- Find out the total number of English language journals in LIS area.
- Select any five LIS journals. Write down their country of origin, name of publisher, date of addition in DOAJ and LCC subject headings are given to the journal.
- Select the content pages of the last two issues each of all the five selected journals.
- Save these contents pages journal wise in five files. (15)

III)

- Use the search engine Google and search the web for “School Libraries in India”.
- Open any five websites of your choice and write down their URLs.
- Make the selected websites as favorites or book mark them and save them in a folder named “School Libraries in India”. (10)

MLI-006: Content Development

TMA-Theory

Coverage

Course Code: MLI-006

Course: Content Development

Assignment Code: AST/TMA-T/Jan.&Jul.2017

Blocks: 1 to 2

Units: 1 to 10

Total Marks: 50

- I) Answer *any two* of the following questions in *not more than 1000 words each*.
- 1) Describe the functions of server page technologies. Discuss the features of ASP and JSP. (15)
 - 2) Explain the concept of Information Resource Management (IRM). Describe the key elements of Willard model of IRM. (15)
 - 3) What do you understand by Field 856? Discuss the constraints of cataloguing Internet resources. (15)
- II) Answer *any four* of the following questions in *not more than 500 words each*.
- 1) Discuss 'Internet as an information system model'. (5)
 - 2) What is netiquette? Describe some general rules to be followed while communicating through Internet. (5)
 - 3) Describe the steps involved in creating a web page. (5)
 - 4) Discuss various services offered by Internet. (5)
 - 5) Explain different steps for qualitative content analysis. (5)
 - 6) Describe the Project Scorpion. (5)

MLIL-006: Content Development

TMA-Practical

Coverage

Course Code: MLIL-006

Course: Content Development

Assignment Code: AST/TMA-P/Jan.& Jul.2017

Blocks: 1 to 2

Units: 1 to 10

Total Marks: 50

General Instructions for Practical Assignment:

- i) Documents, data, database, etc. to work on for the practical assignments will be provided by the Counsellor/Practical Supervisor in the Study/Tele Learning Centre.
- ii) You are required to do the practical assignment in the Study/Tele Learning Centre. Evaluation of the assignment will be done by the Counsellor/Practical Supervisor on the spot.
- iii) Make Screen Captures for all the answers and save them in one file. The Counsellor/Practical Supervisor will evaluate these screen captures and give marks accordingly.
- iv) All questions are compulsory.

1) Display the following using HTML tags: (15)

- A few ball games
 - ❖ Football
 - ❖ Hockey
 - ❖ Cricket
- A few international games
 - ❖ Commonwealth games
 - ❖ Olympic games
 - ❖ Asian games
- A few IGNOU programmes
 - ❖ BLIS
 - ❖ MLIS
 - ❖ PGDLAN
 - ❖ PhDLIS

2) Prepare bibliographic data using XML (Select any document of your choice) (10)

- 3) Develop a website for JRD Tata Memorial Library, IISc, Bangalore with the following features: (20)

1. Main page with banner and menu in frames with the following information:

The Library of the Indian Institute of Science (IISc.) Bangalore, was established in 1911 and it is one of the first three departments started in the Institute. It is regarded as one of the best scientific and technical libraries in India. Apart from the main library it has departmental libraries also. The library moved in to the present premises in January 1965, built out of grants provided by University Grants Commission (UGC), in commemoration of the Golden Jubilee Celebrations of the Institute in 1959. In 1995 the

Library was renamed as "JRD Tata Memorial Library." The National Board for Higher Mathematics (NBHM) has recognized this library as Regional Center for Mathematics for the south region and continued to award a special grant towards subscription of Journals in Mathematics. It is no exaggeration to state that the IISc library is the largest and finest of its kind in this part of the world.

Library Collection

The collection of the library which includes books, journals, reports, standards and patents is regarded one of the richest collections in the country, in the field of science and technology. This rich and valuable collection built over nine decades has some of the rare reference materials and several important journals. This vast reservoir of knowledge, on a conservative estimate, is worth over Rs. 400 crores. The annual budget

of the library is over Rs.12.00 crores of which subscription towards periodicals alone is about 11.00 crores. The library currently receives over 1500 periodical titles of which 1210 are subscribed while the remaining titles are received as gratis and on exchange basis. In addition, over 10,000 Journals are accessible online due to INDEST Subscription. The total holdings of the library exceeds 4,11,676 documents.

Library Services

The library offers services such as Reference Services, Referral Service, User Guidance

Service, Circulation Service including Inter Library Loan and Document Delivery Service, Weekly display of recent additions of periodicals and books including E - mail distribution of these lists to users on our mailing list, Bibliographic Service, Photocopy Service etc. Current awareness service is provided comprising regular display of Photocopy copies of articles published by the Institute faculty and students, in various periodicals that are being received in the library. Under the Corporate Membership Facility (CMF), reference alone facility has been extended to Corporate Organizations/Industries involved in R & D activities. Currently about 200 organizations/industries are availing this facility.

2. Menus with the link to E-resources, Contact, FAQs. (5)

MLI-007: Programming TMA-Theory

Coverage

Course Code: MLI-007

Course: Programming

Assignment Code: AST/TMA-T/ Jan. & Jul. 2017

Block: 1

Units: 1 to 3

Total Marks: 50

- I) Answer *any two* of the following in *not more than 1000 words each*,
- 1) What is System Development Life Cycle? Explain all the stages in the System Development Life Cycle. (15)
 - 2) Write an algorithm to accept a 3 digit number and find the sum of its digit. (15)
 - 3) What is a flow chart? Explain the various symbols of a flow chart. (15)
- II) Answer *any four* of the following in *not more than 500 words each*.
- 1) Describe various elements of a system. (5)
 - 2) What are the various skills a System Analyst must possess? (5)
 - 3) What are the characteristics of an efficient algorithm? (5)
 - 4) Write an algorithm which accepts 5 numbers and sort them in ascending order. (5)
 - 5) What is programming? Explain the steps of programming. (5)
 - 6) Explain the different strategies available for problem solving. (5)

MLI-007: Programming

TMA-Practical

Coverage

Course Code: MLIL-007

Course: Programming

Assignment Code: AST-7/TMA-P/ Jan. & Jul.2017

Blocks: 2 to 4

Units: 4 to 24

Total Marks: 50

General Instructions for Practical Assignment:

- i) Compilers to work on for the practical assignment will be provided by the counsellor/practical supervisor in the Study/Tele Learning.
- ii) You are required to do the practical assignment in the Study/Tele Learning Centre. Evaluation of the assignment will be done by the counsellor/Practical Supervisor on the Spot.
- iii) Attempt either Group A (C++) or Group B(Visual Basic) or Group C(Java).
- iv) For Each C++ and Java program, students are required to design a class construct.
- v) All questions are compulsory.

Group A (C++)

- 1) Write a program that reads a string from the user, then check whether the string is Palindrome or Not. (5)
- 2) Write a program to take an input a number and check whether the number is prime or not. (10)
- 3) Write a program to create a student class which should have the following fields:
 - Student Name
 - Student Age
 - Fee
 - Total Marks

Create 5 objects of his/her class and test the program, and

- i) Print the contents of all objects (10)
- ii) Sort the student objects in ascending order of their total marks (5)
- 4) Write a program that accepts a string from the user and then reverse it and print it. (10)
- 5) Write a program which accepts sequence of numbers from the user and then arrange all those numbers in descending order. (10)

OR

Group B (Visual Basic)

- 1) Write a program to write an Event Procedure to design a Simple Calculator where user type 2 numbers into two different text boxes and the program displays multiplication, addition and subtraction in different text boxes. (10)
- 2) Create a form with a picture box, use a timer control to cycle 10 pictures every second. (10)
- 3) Create a form having 3 text boxes, the user enters 2 strings in first 2 text boxes and after a button is pressed the concatenated string is shown in the third text box. (10)
- 4) Create a form, which takes input base, height of a Cylinder and outputs its Volumes in a text box. (10)
- 5) Create a form having a text box which takes a number as input and in other text box it outputs reverse of the number after a button is pressed. (10)

OR

Group C (Java)

- 1) Write a small program that accepts to represent the following pattern: (10)

```
1
1 2
1 2 3
1 2 3 4
```
- 2) Write a Java program to find the average of 3 numbers. (10)
- 3) Write a program to count the number of characters in a string. (10)
- 4) Write a Java program to concatenate two strings. (10)
- 5) Write a program to accept 10 students name from keyboard in an array and sort them in alphabetical order. (10)