

Information Booklet cum Syllabus

Of

IT Tools and Applications

Revision-I



July 2022

National Institute of Electronics and Information Technology

An Autonomous Scientific Society under
Ministry of Electronics and Information Technology, Government of India

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1. About Course

This Course gives a clear conceptual understanding of IT tools concepts. In this course there are six chapters. Each chapter covers specific topic like Computer Appreciation and Organization, Operating System, Word Processing, Spreadsheet, Presentation, Information Technology application. These chapters gives working knowledge of topics and student will able to use in real life like creating letters, calculating salaries, making presentation etc.

2. NIELIT

National Institute of Electronics and Information Technology, NIELIT, (Erstwhile DOEACC Society) is an autonomous scientific society of the Ministry of Electronics & Information Technology, Government of India. The Society is registered under the Societies Registration Act, 1860. NIELIT was set up to carry out Human Resource Development and related activities in the area of Information, Electronics & Communications Technology (IECT). NIELIT is engaged both in Formal & Non-Formal Education in the areas of IECT besides development of industry oriented quality education and training programmes in the state-of-the-art areas. NIELIT has endeavored to establish standards to be the country's premier institution for Examination and Certification in the field of IECT. It is also one of the National Examination Body, which accredits institutes/organizations for conducting courses in IT and Electronics in the non-formal sector.

3. Objective of Course

The goal of this course is to present overview of IT tools used in day to day use of Computers. The Course has been designed to provide knowledge on various hardware and software components of computer, operating system, various packages used for different applications, and various issues related to IT and application of IT.

At the end of the course the students will be able to:-

- Acquire the foundation level knowledge required to understand computer and its operations.
- Understand the hardware and software components of the computer.
- Understand the basic concept of operating system and get knowledge about various different operating systems.
- Understand to use the packages of word processing, spread sheet and presentation in detail.
- Understand the issues related to IT and IT applications.

4. Job Roles of Course

After successful completion of the qualification the candidates shall be employed in the industries for following occupations:

- Data entry Operator

5. Eligibility

Open to All

6. Total duration of the Course

40 Hours (Theory: 15 Hrs. ,Practical/Tutorial: 25 Hrs.)

7. Course Details

7.1. Course Outline and Objective of Each Unit

S. No.	Unit Name	Duration (Theory) in Hours	Duration (Practical) in Hours	Total Learning Hrs.	Learning Objectives
1	Computer Appreciation and Organization	3	4	7	<p>After completion of this unit of module, Learner will be able to</p> <ul style="list-style-type: none"> • Understand computer concept, its components and applications. • Get familiar with various input, output and hardware components of a computer along with storage devices. • Understand the concept of software and its types.
2	Operating System	3	4	7	<p>After completing this unit, Learner will be able to</p> <ul style="list-style-type: none"> • Understand Windows OS • Understand various Windows OS settings. • Able to add and remove new program and features, Manage files and folders.

3	Word Processing	3	6	9	<p>After completion of this unit, Learner will have in depth knowledge of</p> <ul style="list-style-type: none"> • Word Processing, their usage, details of word processing • Editing and formatting of text. • Mixing of text with graphics.
4	Spreadsheet	3	6	9	<p>After completion of this unit, Learner will have good hands-on practice on</p> <ul style="list-style-type: none"> • Basic Knowledge of Spreadsheet processing • Applying basic formulas and functions. • Formatting of a worksheet.
5	Presentation	2	4	6	<p>After completing this unit, Learner will be able to understand</p> <ul style="list-style-type: none"> • Creation of a presentation • Adding text and graphics to presentation. • Printing different views of a presentation
6	Information Technology application	1	1	2	<p>After completing this unit, Learner will be able to understand</p> <ul style="list-style-type: none"> • Application of IT in various industries

7.2. Detailed Syllabus

Unit Name	Contents	Hrs.
Computer Appreciation and Organization	<ul style="list-style-type: none"> • Characteristics of Computers, Input, Output, Storage units, CPU. • Central Processing Unit - Processor Speed, Cache, Memory, RAM, ROM • Memory- Secondary Storage Devices: Floppy and Hard Disks, Optical Disks CD-ROM, DVD • Input Devices - Keyboard, Mouse, joystick, Scanner, web cam, • Output Devices- Monitors, Printers – Dot matrix, inkjet, laser • Computer Software- Relationship between Hardware and Software; System Software, Application Software, Compiler 	7
Operating System	<ul style="list-style-type: none"> • Microsoft Windows- An overview of different versions of Windows, Basic Windows elements, • File management through Windows. Using essential accessories: System tools – Disk clean-up, Disk defragmenter, Calculator, Notepad, Paint, and WordPad. • Application Management: Installing, uninstalling, running applications. • Windows control panel- keyboard ,mouse, file explorer, font ,region, network settings 	7
Word Processing	<ul style="list-style-type: none"> • Word processing concepts: saving, closing, Opening an existing document, • Editing text, Finding and replacing text, printing documents, creating and Printing Merged Documents, Character and Paragraph Formatting, Page Design and Layout. • Editing and Profiling Tools: Checking and correcting spellings. Handling Graphics, Creating tables 	9
Spreadsheet	<ul style="list-style-type: none"> • Spreadsheet Concepts, Creating, Saving and Editing a Workbook, Inserting, Deleting Work Sheets, entering data in a cell / formula Copying and Moving from selected cells • Handling operators in Formulae, Functions: Mathematical, Logical, text, financial. • Formatting a Worksheet: Formatting Cells – changing data alignment, changing date, • number, character or currency format, changing 	9

	font, adding borders and colours, Printing worksheets, <ul style="list-style-type: none"> • Charts and Graphs – Creating, Previewing, Modifying Charts. 	
Presentation	<ul style="list-style-type: none"> • Creating, Opening and Saving Presentations, Working in Different Views, Working with Slides, Adding and Formatting Text, Formatting Paragraphs, • Making Notes Pages and Handouts • Drawing and Working with Objects, Adding Clip Art and other pictures, • Running and Controlling a Slide Show, Printing Presentations. 	6
Information Technology application	<ul style="list-style-type: none"> • Application of information Technology in Railways, Airlines, Banking, Insurance, Inventory Control, Financial systems, Hotel Management, Education, Video games, Mobile phones, Information kiosks, special effects in Movies. 	2

8. Reference Books/Study Material

- Miller M, “Absolute Beginners Guide to Computer Basics”, Pearson Education, 2009
- V. Raja Raman, “Introduction to Information Technology”, PHI Learning; 3rd edition (30 March 2018)
- Linda Foulkes, “ Learn Microsoft Office 2019: A comprehensive guide to getting started with Word, PowerPoint, Excel, Access, and Outlook”, Packt Publishing Limited; Illustrated edition (29 May 2020)

9. Practical Assignments

Assignment 1- Do the following settings

- Display pointer trails
- Change the normal pointer of a mouse to another pointer
- Set the date advanced by 2 months
- Reset the system date & time
- Set the system time late by 2 hrs: 40 minutes.
- Set the Yesterday date and time in your Operating System.

Assignment 2-Do the followings

- Interchange the functions of left and right mouse buttons.
- Change the wallpaper of your computer and set it to a paint brush file made by you.

- c. Change the screen saver of your computer and change it to 'marquee'
- d. Set your name as the text and wait time should be 2 minutes.

Assignment 3- Create the following folders under the specified locations using windows.

- a. NIELIT on desktop
- b. R1 on the c: i.e. root
- c. D2 on desktop
- d. R2 on the c:
- e. Create a folder NIELIT-1 under the D1 folder
- f. Create a folder D2-1 under the D2 folder
- g. Copy this D2-1 folder and paste it under R1 folder.
- h. Delete the folder D2-1 from R1 folder
- i. Create the folder R1-1 under R1 folder
- j. Copy R1-1 folder under the R2 folder
- k. Rename folder R1-1 under R2 folder as 'subfolder of R2'
- l. From the c: copy all files to folder R2
- m. Delete all the files from the folder R2
- n. Recover all the deleted files

Assignment 4- Create a document in Word on a topic of your choice. Format the document with Various fonts (minimum 10, maximum 12) and margins (minimum 1.5, maximum 3).

The document should include

- a. A bulleted or numbered list
- b. A table containing name, address, basic pay, department as column heading
- c. A picture of lion using clip art gallery
- d. An example of word art
- e. A header with student name & date
- f. A footer with pagination

Assignment 5- Create a document with the text given below and save it as First

A Read only Memory is a memory unit that performs the read operation only, it does not have a write capability. This implies that binary information stored in a ROM is made permanent during the hardware production of the unit and cannot be altered by writing different words into it. Whereas a RAM is a general-purpose device whose contents can be altered during the computational process, a ROM is restricted to reading words that are permanently stored within the unit. The binary information to be stored specified by the designer, is then embedded in the unit to form the required interconnection pattern.

Do the following

- a. Count the occurrences of the word "ROM" in the above document.
- b. Replace ROM with Read Only Memory in the entire document
- c. Underline the text Read Only Memory
- d. Make an auto correct entry for ROM and it should be replaced by Read Only Memory

Assignment 6- Use the file First to perform the following operations

- Make the first line of document bold.
- Make the second line italic.
- Underline the third line.
- Align the fourth line to center.
- Make the font color of first line as red.
- Change the font style of fifth line to Arial.
- Change the second line to 18 points.
- Insert the date & time at the start of document.

Assignment 7 - Use the document saved earlier and perform the page setting as follows.

- Top Margin 1.3”
- Bottom margin 1.4”
- Left margin 1.30”
- Right margin 1.30”
- Gutter margin 1.2”
- Header 0.7”
- Footer 0.7”
- Paper size executive
- Orientation landscape

Assignment 8- Create a table in word as shown below with following fields.

Roll No	Name	Marks		Total Marks
		Physics	Chemistry	
1.	Ritu	78	88	166
2.	Amit	90	92	182
3.	Rakesh	67	78	145
4.	Rohit	50	50	100
5.	Niti	60	65	125
6.	Garima	89	67	156

Assignment 9- Do the followings.

- In the total marks column, entries should be calculated using formulas and it is the sum of marks in physics and marks in chemistry.
- Insert a new row at the end of the table and also find grand total using formula.
- Sort the table based on total marks
- The date and heading should be center aligned
- Heading should be in bold and underlined

Assignment 10- Below is given a letter and some addresses. This letter is to be sent to all these

Addresses. User mail merge

Addresses are:

- Amit, H No 424 sector 8D, Lajpat Nagar, New Delhi

- 2) Rohit, H No 444, Sector 125C, Chandigarh
3) Jyoti, H NO 550, Sector 16A, Gomti Nagar, Lucknow

To

<<Name>>

<<Address>>

Dear <<Name>>

You are advised to appear for an interview on the <<Date>> at 9:00 A.M with your original documents.

Yours Sincerely

ABC Limited,

Industrial Phase –7, New Delhi.

Assignment 11- Type the following data using spreadsheet tool and save the file as First

A	B	C	D	E
513				
501				
504				
513				
516				
532				
504				
432				
501				
510				
517				
479				
494				
498				
511				

Do the following

- Highlight column A and copy it to column C
- Sort the data in column C in ascending order
- What is the lowest number in the list (use a function)
- Copy the data in column A to column E and sort it in descending order
- What is the highest number in the list (use a function)
- How many numbers in this list are bigger than 500 (use a database function)
- How many numbers in column A are between 520 and 540 inclusive (use a database Function)

Assignment 12- Type the following data in spreadsheet and save it as Second.

A	B	C	D
370	70.5		
61166	53.5		
684	65		
449	76.5		

643	70		
1551	71		
616	60.5		
403	51.5		

Do the following

- Complete column C for finding product $x * y$
- Find sum of x column at the end of data
- Find sum of y column at the end of data
- Find sum of $x * y$ column at the end of data
- Find sum of x^2
- Find sum of y^2

Assignment 13- Enter the following data using spreadsheet tool and save it in Grade

Name	Marks1	Marks2	Marks3	Total	Percentage
Amit	80	70	80		
Renu	70	60	90		
Rajeev	87	89	65		
Munish	76	67	44		
Sanjeev	98	76	78		
Anita	65	76	87		

Do the following.

- Compute the total marks and percentage of each student by entering appropriate formula.
- Compute the grades based on following criteria
 If percentage ≥ 90 then grade = A
 If percentage ≥ 80 and < 90 then grade = B
 If percentage ≥ 70 and < 80 then grade = C
 If percentage ≥ 60 and < 70 then grade = D
 If percentage < 60 then grade = E
- Draw a border around the worksheet
- Change the font size of heading to 14 points and underline it and hide column c
- Increase the width of column A to 15 characters
- Right Align the values in column B, C, F

Assignment 14- A university maintains a year wise result for four courses and then generates an average report as given below.

Sr. No.	Year	Course1	Course2	Course3	Course4	Average	Total
1	2013	650	675	666	456		
2	2014	600	700	656	765		
3	2015	677	655	765	400		
4	2017	400	400	400	400		
5	2018	560	760	467	737		

- Complete the report to calculate the course wise average in row 6
- Provide formula to calculate year wise average in column G

(c) Generate a column chart to compare data.

Assignment 15- Set up a new presentation of three slides.

1. On the master slide:

- a) Apply a theme of your choice to the master slide.
- b) Include an automated page number in the bottom left of the footer
- c) Place a clipart image of a pen or pencil as a logo in the top right corner.

2. Add the following text in slide 1

Heading: Hothouse Design (Red, 25 point, Arial font, Left Aligned)

3. On the second slide type the following text where font="Arial" size="20"

Earlier in the year we started to analyze the sales profile for the stationery business stream within Hothouse. The areas of initial investigation were selected as the management of our sales team, our customer base, website effectiveness, and an analysis of our most successful product lines.

4. On the third slide where font="Arial" size="20" Possible timings for these bonuses include:

- Weekly
- Monthly
- Quarterly
- Annually

Assignment 16- Set up a new presentation consisting of 3 slides

1. on the first slide

- a) Type Telephone Analysis for the title, using any word Art option.
- b) Insert any appropriate image below the title and apply an Animation effect to the Image.
- c) Insert a Sound from the Clip Organizer.

2. on the second slide:

- a) create a pie chart using the following data:

Call type	Minutes
International	1640
Peak Rate	7842
Cheap Rate	1543
Internal	16805

- b) Insert the chart title "Telephone Analysis".

3. on the third slide:

Enter the following text: (font style="Times new roman", font size= "24")

As you can see that our vast majority of calls are internal. These figures are the Average values per day for all departments, using a monitoring period of 2 weeks.

4. Use the same transitional effect between each slide.
 5. Play a slide show.
-

Assignment 17 -Set up a new presentation consisting of 4 slides

1. On the first slide
 - a) Include an automated slide number left aligned.
 - b) Enter the heading New Website.
 - c) Enter the sub heading Proposed Web Pages.
 - d) Insert any appropriate image below the sub heading and apply an Animation effect to the image.
 - e) Create the following hyperlink <http://www.google.com> on the image
 - f) Insert a Sound from the Clip Organizer.
2. On the second slide:
 - a) create a pie chart using the following data:

Type of Trip	2008 Dives
Go deep	2512
Wreck Week	12680
Shark Experience	940
Cave Dives	353

3. On the third slide:

Enter the following text: (font style=Times New Roman, font size= 24)
During the development of this new website, we have realized that the proposed design brief may need to be amended.
4. On the fourth slide:

Insert a Movie from a File on Your Computer
5. Use a picture as background in all your slides.
6. Use the same transitional effect between each slide.
7. Play a slide show.