Expression of Interest

for

Engagement of Training Institute for Skilling Youths In and Around Six IT Parks in West Bengal for Digital Literacy, Diploma and Advance Diploma Courses
(Bolpur, Kharagpur, Asansol, Purulia, Barjora and Siliguri)

Under

National Institute of Electronics and Information Technology, Kolkata

Unit 1:   Jadavpur University Campus, Kolkata-700032
Telephone (EPABX): (033) 2414 - 6054/ 6081
Fax: (033) 2414 - 6549

Unit II: Salt Lake Campus,
BF-267, Sector-I, Salt Lake, Kolkata - 700064
Phone: +91 (033)-46022246/ 46020938

NIELIT, Kolkata - Roles and Responsibilities

1. **Introduction:**

NIELIT Kolkata invites Expression of Interest from eligible institutes for conducting Training Program in six districts (Birbhum, Paschim Medinipur, Paschim Bardhaman, Purulia, Bankura, Darjeeling) of West Bengal in and around six IT parks. i.e IT parks at Bolpur, Kharagpur, Asansol, Purulia, Barjora and Siliguri.

The training will be encouraged using the support from NIELIT accredited institutes, NIELIT recognized ESDM Training Partners, NIELIT facilitation center, WIL training partners and CSC s. The students should be present in NIELIT offices at IT parks during their selection, examination, special training program, workshop, carrier guidance program etc.

The objective of the initiative is to conduct the Training Program in and around six IT parks of West Bengal for unemployed youths to increase their skills in IT, Electronics and IT enabled services by extension of locational presence of NIELIT Kolkata.

2. **Training Location**

The NIELIT accredited institutes, ESDM Training Partners, WIL training partners can conduct the training in their center location and in any other suitable venue having adequate infrastructure within above six districts in and around six IT Parks. Such suitable venues identified by the institute should be complete in all respect like sufficient infrastructure, PC, faculty member/trainer, well connected by public transport, etc.

The NIELIT facilitation centers and CSC s can conduct the training only in their registered center location within these six districts.

Private institutes having good infrastructure and facilities may also apply but their applications will be considered if sufficient responses are not received from the above stated categories.

3. **Examination and Certification**

    i. NIELIT Kolkata will conduct the skill evaluation examination as per practice.
   ii. Certificates will be issued to the successful candidates. All the successful candidates would be issued the Certificate and Grade card.
   iii. Any future changes if required will be implemented with intimation to the Institute. However the Institutes will implement such directives without raising any objection and without disturbing the future of the students.

4. **Courses to be conducted**

All the courses are skill oriented and should be taught as per NIELIT syllabus and guidelines.

A) The following Courses of 42 hours will be offered in different phases:

     i. Certificate Course in Android Apps Development
     ii. Certificate course in IoT using Python
     iii. Certificate Course in Office Automation and Practices 21
     iv. Certificate Course in Assembly & Maintenance of PC
     v. Certificate Course in Desk Top Publishing
     vi. Certificate Course in Soft Skill
     vii. Certificate Course in Multimedia
    viii. Certificate Course in Financial Accounting
     ix. Certificate Course on Solar Technologies
     x. Certificate Course in Basic Computer Operation
     xi. Certificate Course in PC Hardware and Maintenance
    xii. Foundation Course in Financial Accounting
    xiii. Certificate course in Basic Repairing of Printer and Cartridges

B) The following Courses of 150 hours will be offered in different phases:

     i. Diploma in Computer Application
     ii. Diploma in PC Hardware, Networking and Solar Technology
     iii. Diploma in Multimedia Animation

C) The following Courses of 175 hours will be offered in different phases:

     i. Advance Diploma in Computer Application
     ii. Advance Diploma in PC Hardware, Networking and Solar Technology
     iii. Advance Diploma in Multimedia Animation

The details of the courses are given in Annexure – I. Depending on response and acceptability the number of courses will be increased appropriately.

5. **Registration of Students**

  i. The students are to be registered with NIELIT Kolkata.
  ii. The admission of a student will be confirmed after registration. Without valid registration the students cannot be given any confirmation by the institute.
  iii. The student should submit valid photo identification proof (valid Aadhar Card/ PAN Card/ Voter ID/ Passport/ Driving License) along with application form.

6. Eligibility

   i. The Candidate must submit the photocopy of photo identity proof and their educational qualification along with NIELIT application.
   ii. Taking admission in more than one course by a student will be discouraged.
   iv. The candidate will be selected by a committee comprising members of representatives of NIELIT Kolkata, West Bengal Electronics Industry Development Corporation (WBEIDC) and one official from local administration.
   v. Academic eligibility of the students (according to the course).
   vi. The following additional points will be considered for selection.
   - Economically Weaker sections (EWS) are preferred.
   - Basic Computer knowledge and intention to setup entrepreneurship.

7. Conducting the Training Program

While Conducting the Training Program the Institute must assure the followings,

i. Infrastructure –

Hardware:
a) Minimum 10 number of Computer Systems (for a batch size of minimum 20 and will increase proportionately) having latest configurations (Dual Core and above, Minimum of 1GB RAM, 20 GB Free hard disk space)
b) Internet Connectivity: 1 Mbps line/ Broad Band
c) Projector: Minimum 1
d) Printer: Minimum 1 Printer
e) Scanner: At least 1
f) UPS Power supply – adequate as per system requirement
g) Webcam, Speaker

Software:
a) Windows 7 or Above
b) Antivirus
c) Tally Package
d) AUTOCAD Package
e) Multimedia Course related Software

ii. Faculty Member quality –
Quality of faculties would be according to the following

Computer Oriented Courses –

a) Faculty – Graduate or higher with A or O Level or Diploma in Computer field / B Level / MCA / B.E/ B.Tech / M.Sc in Computer Science

a) Lab Instructor – BCA / Diploma in computer Science

Electronics Oriented Courses –

b) Faculty - B.E / B.Tech/ Diploma/ITI in Computer Science, Electrical or Electronics & communication, Instrumentation for Hardware Course/ Graduate with diploma in computer field or relevant experience

Lab Instructor –

a) ITI / Diploma Computer Science, Electrical or Electronics & communication, Instrumentation for Hardware Course/ Graduate with diploma in computer field or relevant experience

Financial Accounting Courses –

a) Faculty – Graduate or higher (preferably in commerce stream) with relevant experience in Financial Accounting tools.

iii. Batch Strength –

Not more than 2 students are allowed to sit on a single computer during lab session. Not more than 30 candidates will be allowed in a single batch.

8. **Eligibility of the Institutes**

Categorization of Institutes

i. Category-A

a) NIELIT IT-O/A/B Level Accredited Institutes
b) CHM – O /A Level Accredited Institutes
c) NIELIT Training Partner for ESDM Courses
d) Webel Informatics Limited (WIL) authorized Training Partners

ii. Category –B

a) NIELIT CCC/BCC Affiliated Institute
b) Common Service Center (CSC)

iii.Category –C

Private institutes not included/qualifying in the above categories but having sufficient strength to conduct similar training program.

Jurisdiction of Training Institutes in different categories mentioned above

The NIELIT accredited institutes, NIELIT recognized ESDM Training Partners, WIL authorized training partners **(Category –A)** can conduct the training in their registered center location and in any other suitable venue having adequate infrastructure within six districts mentioned above in and around six IT Parks. Such suitable venues identified by the institute should be complete in all respect like sufficient infrastructure, PC, faculty member/trainer, well connected by public transport, etc.

NIELIT facilitation centers **(Category –B)** can only conduct the training in their registered center location within these six districts.

Private institutes **(Category – C)** having good infrastructure and facilities may also apply but their applications will be considered if sufficient responses are not received from the above stated categories. An Inspection by NIELIT or its representatives will be conducted from time to time to check the genuineness of the claim. An institute repetitively found to have inadequate infrastructure will be discontinued.

9. **Terms and Conditions relating to payment**

   Reimbursement to the institute:
   1) For 42 hours course, mobilization and training @ Rs 900/- (including GST and other Govt. Levies & Taxes) per successful candidate
   2) For 150 hours course, mobilization and training @ Rs 3215/- (including GST and other Govt. Levies & Taxes) per successful candidate
   3) For 175 hours course, mobilization and training @ Rs 3750/- (including GST and other Govt. Levies & Taxes) per successful candidate

   Training should be conducted for a batch of minimum 20 students to a maximum of 200 candidates in a single work order. For further extension based on performance, a new work order/ an extension letter may be issued indicating the maximum number of candidates with earlier Terms & Conditions.

   Student Course Fees
   Subsidized course fees to be paid by the students,

   - **Course fees**
     1) For 42 hours course student has to pay Rs 500/- + GST
     2) For 150 hours course student has to pay Rs 1800/- + GST
     3) For 175 hours course student has to pay Rs 2100/- + GST

   - **Payment procedure**

Subsidized Course Fees collected from the students + GST to be directly deposited to bank as per following details by the institute:

    i. Name of A/C – NIELIT Kolkata
    ii. Bank Name: Bank of India
    iii. Saving A/C No- 401010110006386
    iv. Branch-Jodhpur Park
    v. IFSC Code –BKID0004010

- The Institute has to raise bills batch wise along with supporting documents after the certification of each batch against which the payment would be released after verification.
- Successful Completion means passing in the final examination by the Students conducted by NIELIT Kolkata Centre.
- Claim for reimbursement should be made by the institute after declaration of result by NIELIT Kolkata.
- In case a student cannot pass the examination in the first go then he would be given a second chance at his/her own cost. No repeated claim against such student will be entertained.
- The amount of Course fees to be reimbursed to the Institute shall include all incidental expenditure relating to conduct the courses and examination. No further money can be claimed in any other form whatsoever.
- The institute having GST registration should clearly mention GST registration number in their bill. The amount of GST should be indicated separately in the bill.

The Expression of Interest (EOI) is attached in Annexure – II. A photocopy of the documents may be retained by the Applying Institutes before submission for future correspondence. All the authorized pages of this EOI along with documents should be submitted in a sealed envelope subscribing **"EOI for engagement of Training Institute for Skilling youths in and around six IT Parks in West Bengal"** on or before **17/01/2020.** All correspondence should be addressed to the Director, NIELIT, Kolkata Centre, Jadavpur University Campus, Kolkata – 700032.

The existing associates of NIELIT Kolkata who are already working in the districts where IT park is located may convey their intension to conduct this Diploma and Advance Diploma Level courses as per Annexure- III through e-mail at rashmimv@nielit.gov.in, kkarkhan@nielit.gov.in only. These institutes have been inducted based of the submission of their previous EOI and approval of the authority.

Annexure – I

A) The following Courses of 42 hours will be offered in different phases:

1. Certificate Course in Android App Development
(Total – 42 hrs)

Minimum Eligibility: Graduate/ Diploma/A level/ O level

S. No	Topic	Theory Hours	Practical Hours
1	JAVA Programming basics	4	4
2	Introduction To Mobile Apps & Android, Android Architecture	2	2
3	Android Components, Building UI with Activities	1	4
4	Notifications, Multithreading, Styles And Themes	1	4
5	Intent, Intent Filters and Broadcast Receivers	1	4
6	Services, Location Based Services	1	4
7	Wi-Fi, Camera, Bluetooth	1	4
8	Android Application Deployment Projects	1	4
	Total	**12**	**30**

2. Certificate Course in IoT using Python
(Total – 42 Hrs)

Minimum Eligibility: Graduate/Diploma/ A level/ O level

S. No	Topic	Theory Hours	Practical Hours
1	What is IoT - In-depth explanation, Elements, Sensors	2	2
2	Arduino / Raspberry Pi ,Circuit Design, Programming, Interfacing	2	5
3	Python Programming, Function, Loop, Module, Conditioning, Classes etc.,	5	5
4	Matplotlib, Numpy, PIP, Opencv modules and programming using them	2	3
5	IoT module interaction using Python / Arduino Programming language	1	5
6	One IoT Implementation Project	0	10

		Total	12	30

3. Course on Office Automation and Practices
(42 Hours)

Minimum Eligibility: X APPEARED/ PASS

Sl No	Topics	Theory Hours	Practical Hours

1	Word and Excel
	Understanding Word Processing:
	  1. Word Processing Basics; Opening and Closing of
	  2. documents; Text creation and Manipulation; Formatting of text; Table handling; Spell check,
	  3. Language setting and thesaurus; Printing of word document.
	Basics of Spreadsheet:
	  1. Manipulation of cells; Formulas and Functions; Editing of Spread Sheet, printing of Spread Sheet.
		2	15

2	Bengali Typing 1. Bangla Word, Using Avro Keyboard	0	5
3	Photoshop 1. Using Adobe Photoshop CS5, Main menu & its activities.	2	8

4	Hardware & Networking
	  1. Different parts of Computer, PC Assembly , Formatting of Hard disk,
	  2. Partitioning of Hard disk in different logical drives,
	  3. Disk defragmentation, Disk clean up, Scan disk,
	  4. Printers, Scanner, Modem and their Installation,
	  5. Type of Backup, Taking Backup files, Restore point
		2	8

	Total Hrs	**6**	**36**

4. Certificate Course in Assembly & Maintenance of PC
(Total – 42 hrs)

Minimum Eligibility: X APPEARED/ PASS

Sl No	Topics	Theory Hours	Practical Hours

1	Basic of computer, I/O devices
	  1. What is Computer?
	  2. Components of Computer System
	  3. Concept of Hardware and Software
	  4. Input and output devices like Mouse, Keyboard, Plotter
		2	1

Sl No	Topics	Theory	Practical
	etc		

2	Monitors (CRT/LCD/LED), Memory
	  1. Computer monitors, functions, advantages and disadvantages.
	  2. Memory system and its types (Main memory & Secondary memory), their differences
		2	3

3	Hard Disk (SATA, USB, Solid State)
	  1. Secondary memory like Hard Disk and its types.
	  2. Formatting of Hard disk, Partitioning of Hard disk in different logical drives, Disk defragmentation, Disk clean up, Scan disk etc.
		2	2

4	Study of different types of Mother Board
	  1. Motherboard and its types
	  2. Motherboard Configuration, Identifying Internal and External connectors, Types of data cables
			5

5	I/O Ports, graphic cards
	  1. Different types of I/O Ports available and their purpose
	  2. Graphic cards and its function
		1	1

6	Installation of OS /printer/ modem / scanner
	  1. Installation of Operating System i.e. DOS/Windows
	  2. Printers, Scanner, Modem and their Installation
			9

7	BIOS set up 1) Study of BIOS Set-up, Boot configuration, Boot Menu		2

8	Recovery & Trouble shooting
	  1. Type of Backup, Taking Backup files, Restore point, Automated System Recovery (ASR)
	  2. POST (Power on Self-Test), identifying problems by Beep codes errors, Troubleshooting Boot Failures, Replacement of components etc.
			6

9	Preventive maintenance & Anti-Virus 1. Virus and Running of virus protection programme		2

10	Networking Fundamentals
	  3. Networking Concept, advantages, Network topologies, Types of networks, OSI model
	  4. Networking components – switches, bridges, routers, Gateways etc.
	  5. Transmission media- Guided media and Unguided media
			4

	Total Hrs	**7**	**35**

5. Certificate Course in Desk Top Publishing
(Total – 42 hrs)

Minimum Eligibility: X APPEARED/ PASS

Sl No	Topics	Theory Hours	Practical Hour

S. No	Topic	Theory Hours	Practicals
1	Fundamentals of Computers 1. What is Computer? 2. Hard Disc , Printers 3. Different types of memory etc	2	
2	Photoshop (Adobe Photoshop) 1. Understanding Tools & Workspace 2. Image/Photo Editing-Mixing-Enhancements 3. Creating Modeling & Wedding Photographs 4. Creating Digital Images & Backgrounds 5. Converting Color To B/W And B/W To Colour 6. Filters & Automated Options 7. Creating Web Graphics 8. Shortcuts To Work Efficiently	2	12
3	Page maker 1. Page layout Basics 2. Understanding Tools & Workspace 3. Creating: 4. Labels, Pamphlets 5. Bill books, Viz. Cards, Greetings Cards, Advertisements etc. 6. Books & Booklets 7. Column Style Documents 8. Shortcuts To Work Efficiently	2	10
4	Corel Draw 1. Understanding Tools & Workspace 2. Drawing Shapes & Graphics 3. Logos & Artistic Text 4. Multicolor Designs: Viz. Cards & Greetings Cards, Book Covers, Brochures, Advertisements, Banner 5. Web Graphics 6. Shortcuts To Work Efficiently	2	12
	Total Hrs	**8**	**34**

6. Certificate Course in Soft Skill
(Total – 42 hrs)
Minimum Eligibility: X APPEARED/ PASS

S. No	Topic	Theory Hours	Practical Hours
1	Brief introduction to MS Office, Powerpoint and Microsoft Access	4	8
2	Brief introduction to: Spoken variety of English, the two chief spoken varieties-British and American; Indian English and idea		2

	of a neutral accent.		
3	Consonant sounds, Vowel sounds in English: Pure vowels (Long vowels and short vowels) Phonetic Symbols,		2
4	Refresher classes on English Grammar and Vocabulary		2
5	Connected Speech: Word stress and sentence stress	2	2
6	Reading from texts, computer aided teaching and learning exercises	1	2
7	Entry behaviour evaluation, Introductory Module on Personality Development		2
8	Presentation and speech giving techniques		2
9	Module on Office Etiquette		1
10	Module on Customer Care		1
11	Telephone handling Techniques		1
12	Module on Active Listening		1
13	Module on Product features and benefits		1
14	Module on call structure		1
15	Module on objection handling and questioning Techniques		1
16	Module on Telemarketing and Prospecting		1
17	Module on Complain handling and handling of difficult people		1
18	1. Group Discussion 2. Lesson on 'How to Face Interview', Body Language, 3. Debating Competition 4. Conduction of role-plays 5. Conducting Mock interviews 6. Interactive sessions		4
	Total Hrs	**7**	**35**

7. Certificate Course in Multimedia
(Total - 42 hrs)

Eligibility: XII APPEARED/ PASS

Sl No	Topics	Theory Hours	Practical Hours
1	Introduction to Multimedia 1. What is multimedia? 2. Components of multimedia	2	

	3. Web and Internet multimedia applications 4. Transition from conventional media to digital media		

2	Image Editing Basics
	    1. Colour Science , Colour, Colour Models, Colour palettes
	    2. Dithering, 2D Graphics, Image Compression and File Formats :GIF, JPEG, JPEG 2000, PNG, TIFF, EXIF, PS, PDF
	    3. Basic Image Processing [Can Use Photoshop]
	    4. Use of image editing software (Image Editing - Basics),
	    5. White balance correction
	    6. Dynamic range correction
	    7. Gamma correction
	    8. Photo Retouching
		2	4

3	Creating Presentation
	    1. Introduction to PowerPoint
	    2. Opening a PowerPoint presentation.
	    3. Saving a presentation
	    4. Creating presentation using templates, Creating blank presentation
	    5. Inserting and deleting slides, Preparation of slides
	    6. Providing aesthetics, Presentation of slide.
			4

4	Creating 2D Animation (Raster)
	    1. Motherboard and its types
	    2. Computer Animation using Flash, Cell animation using Photoshop.
			6

5	Creating 2D Animation (Vector) 1. Cell Animation, Computer Animation, Tweening, Morphing, Introduction to Action Script 2.0		6

6	Basics of Web Authoring
	    1. HTML (Basic): Create an index page from HTML, Developing a Web page
	    2. HTML (Basic): Create an index page from HTML, Developing a Web page,
	    3. Adding Multimedia Elements
	    4. Basic concept of CSS -2,3 and Web page layout design
			6

7	Sound and Image Embedding
	    1. Embedding Sound and Image in Adobe Premier & After Effects
	    2. Introduction to video editing tools & plugin concept
	    3. Importing and capturing projects
	    4. working with clips
	    5. Editing techniques, Transitions, Effects.
			10

8	Sound Editing
	    1. Introduction to Sound editing software,
	    2. Working with existing sound files
	    3. Editing sound files, adding effect, recording sound clips.
			2

| | | **Total Hrs** | **4** | **38** |

8. Certificate Course in Financial Accounting
(Total – 42 hrs)

Eligibility: XII APPEARED/ PASS with basic knowledge of Computer and Financial Accounting

Sl No	Topics	Theory Hours	Practical Hours
1	Starting Tally 1. Tally Screen :- Button Bar, Calculator, Work Area, Gateway of Tally Menu 2. Creation of company, Alteration of company 3. Configuration Options available at Gateway of Tally 4. Enabling/Disabling Optional features of Tally	1	1
2	Account Masters 1. Hierarchy of accounts :- Ledger Accounts & Groups 2. Reserved Account Groups 3. Creation of Account Masters Account Masters (Contd.) 1. Creation/Alteration of Groups 2. Alteration of System Generated Reserved Groups 3. Deletion of Group/Ledger 4. Creation/Alteration of Multiple Ledgers/Groups 5. Copying Masters 6. Set Credit Limits & Credit Periods	1	1
3	Account Vouchers 1. Voucher Screen:- Voucher Header, Voucher Body, Saving Voucher, Printing Voucher online 2. Payment, Receipt and Contra Vouchers 3. Use of Voucher Configuration Options (F12)	1	2
4	Account Vouchers (Contd.) 1. Sales , Purchase Vouchers 2. Debit Note, Credit Note 3. Journal Voucher 4. Creating new Voucher Types 5. Creating new Voucher Class	1	2
5	Account Reports 1. Account Books :- Cash/Bank Book(s), Sales/Purchase Register, Debit Note/Credit Note Register, Ledgers 2. Statement of accounts 3. Trial Balance, Balance Sheet, Profit and Loss Account 4. Exception Reports 5. Fund Flow	1	2

	6. Ratio Analysis		
	7. Interest Calculations		
6	Inventory Masters	1	2
	1. Introduction to inventory		
	2. Creation of Company for Accounts With Inventory		
	1. Features and configuration for inventory		
	2. Stock group & categories		
	3. Godowns		
	4. Units of Measurement etc		
7	Inventory Transactions	2	4
	1. Inventory and Accounting vouchers involved in Purchase Procedure viz. Purchase Order, Goods Receipt Note, Purchase Invoice, Rejection Outwards and Debit Note		
8	Inventory Transactions		
	1. Inventory and Accounting vouchers involved in Sales Procedure viz. Sales Order, Delivery Note, Sales Invoice, Rejection Inwards and Credit Note		
9	Inventory Transactions		1
	1. Physical Stock Voucher		
	2. Stock Journal		
10	Inventory Reports		
	1. Reports pertaining to inventory		
11	Advanced Features Of Tally	1	1
	1. Printing & Housekeeping		
	2. Backup & Restore		
12	Security Features of Tally		
	1. Tally Vault		
	2. Tally Locker		
	3. Security Control		
13	Business Management	1	1
	1. Introduction to Cost Centres, Cost Categories		
14	a. Special Features of Tally	1	1
	2. Memorandum Vouchers		
	3. Reverse Journals		
	4. Optional Vouchers		
	5. Post Dated Vouchers		
	6. Using Scenarios and Budgets		
15	1. Introduction to TDS	1	1
	2. Company configuration with TDS enabled		
	3. Voucher Entry		
	4. Statutory reports		
16	1. Introduction to TCS under Income Tax Act & GST (Form 16, 16A, 26AS, 26Q, 24Q	1	1
17	1. GST (concept, Act/Rules, Overview)	4	3
	2. CGST, SGST, IGST, UTGST, Composition, Reverse		

	Charge Mechanism, Input Tax Credit, Registration, Returns (GSTR-2, GSTR-2A, GSTR-1, GSTR-1A, GSTR-3, GSTR-3B)		
18	1. Opening balance sheet & closing/ final balance sheet	1	1
	Total Hrs	**18**	**24**

9. Certificate Course on Solar Technologies
(Total – 42 Hrs)

Eligibility: XII APPEARED/ PASS

Sl no	Course Content	Theory Hours	Practical Hours
1	Introduction to Solar cell and Solar panel, Basic knowledge of electrical measurement, Battery, inverter, motor, other components and Soldering	6	2
2	Solar street light installation	2	4
3	Solar panel installation for household	2	5
4	Working of Submersible Motor Water Pump using solar panel	2	6
5	Solar power converter (DC to AC)	2	2
6	Current multiplication method used in solar power house	2	3
7	Assignment & Evaluation	0	4
	Total Hrs	**16**	**26**

10. Certificate Course in Basic Computer Operation

Minimum Eligibility: VII APPEARED/ PASS   **Min Age: 14 yrs**

Sl No	Topics	Theory Hours	Practical Hours
1	Knowing computer 1. Basic Applications of Computer; 2. Components of Computer System, 3. Central Processing Unit (CPU), VDU, Keyboard and Mouse, Other input/output Devices, 4. Computer Memory, Concepts of Hardware and Software; 5. Connecting keyboard, mouse, monitor and printer to CPU and checking power supply.	2	2
2	Operating Computer using GUI Based Operating System 1. What is an Operating System; 2. Basics of Popular Operating Systems; 3. The User Interface, Using Mouse;	2	6

	4. Using right Button of the Mouse and Moving Icons on the screen, Use of Common Icons, Status Bar, Using Menu and Menu-selection, Running an Application, Viewing of File, Folders and Directories, Creating and Renaming of files and folders, Opening and closing of different Windows; 5. Using help; Creating Short cuts, Basics of O.S Setup			
3	Understanding Word Processing: 4. Word Processing Basics; Opening and Closing of documents; Text creation and Manipulation; Formatting of text; Spell check, Language setting and thesaurus 5. Table handling 6. Printing of word document.			10
4	Basics of Spreadsheet: 1. Manipulation of cells; 2. Formulas and Functions; 3. Editing of Spread Sheet, printing of Spread Sheet.			6
5	Introduction to Internet, WWW and web browsers 1. Basic of Computer networks; 2. LAN, WAN; Concept of Internet; 3. Different applications of Internet; 4. Basics of internet connectivity related troubleshooting, 5. What is ISP; World Wide Web; Web Browsing softwares, Search Engines; 6. Understanding URL; Domain name; IP Address; 7. Using e-governance website	2		6
	Communications and Collaboration 1. Basics of electronic mail; 2. Getting an email account; 3. Sending and receiving emails; 4. Instant Messaging; Netiquettes.			2
6	Bengali Typing 1. Bangla Word, Using Avro Keyboard			4
	Total Hrs		**6**	**36**

11. Certificate Course in PC Hardware and Maintenance

Minimum Eligibility: VIII APPEARED/ PASS   **Min Age: 14 yrs**

Sl No	Topics	Theory Hours	Practical Hours
1	Basic of computer, I/O devices 5. What is Computer?	2	2

Sl No	Topics	Theory Hours	Practical Hour
	6. Components of Computer System 7. Concept of Hardware and Software 8. Input and output devices like Mouse, Keyboard, Plotter etc		

2	Monitors (CRT/LCD/LED), Memory
	   3. Computer monitors, functions, advantages and disadvantages.
	   4. Memory system and its types (Main memory & Secondary memory), their differences
		2	3

3	Hard Disk (SATA, USB, Solid State)
	   3. Secondary memory like Hard Disk and its types.
	   4. Formatting of Hard disk, Partitioning of Hard disk in different logical drives, Disk defragmentation, Disk clean up, Scan disk etc.
		2	6

4	Study of different types of Mother Board
	   3. Motherboard and its types
	   4. Motherboard Configuration, Identifying Internal and External connectors, Types of data cables
			3

5	I/O Ports, graphic cards
	   3. Different types of I/O Ports available and their purpose
	   4. Graphic cards and its function
			2

6	Installation of OS /printer/ modem / scanner
	   3. Installation of Operating System i.e. DOS/Windows
	   4. Printers, Scanner, Modem and their Installation
			10

7	BIOS set up 2) Study of BIOS Set-up, Boot configuration, Boot Menu		4
8	Recovery & Trouble shooting 6. Type of Backup, Taking Backup files, Restore point, Automated System Recovery (ASR)		4
9	Preventive maintenance & Anti-Virus 2. Virus and Running of virus protection programme		2
	Total Hrs	**6**	**36**

12. Foundation Course in Financial Accounting

Eligibility: X APPEARED/ PASS

Sl No	Topics	Theory Hours	Practical Hour
1	Starting Tally • Tally Screen :- Button Bar, Calculator, Work Area, Gateway of Tally Menu • Creation of company, Alteration of company • Configuration Options available at Gateway of Tally • Enabling/Disabling Optional features of Tally	2	2

2	Account Masters • Hierarchy of accounts :- Ledger Accounts & Groups • Reserved Account Groups • Creation of Account Masters Account Masters (Contd.) • Creation/Alteration of Groups • Alteration of System Generated Reserved Groups • Deletion of Group/Ledger • Creation/Alteration of Multiple Ledgers/Groups • Copying Masters • Set Credit Limits & Credit Periods	2	4
3	Account Vouchers • Voucher Screen:- Voucher Header, Voucher Body, Saving Voucher, Printing Voucher online • Payment, Receipt and Contra Vouchers • Use of Voucher Configuration Options (F12)	2	4
4	Account Vouchers (Contd.) • Sales , Purchase Vouchers • Debit Note, Credit Note • Journal Voucher • Creating new Voucher Types • Creating new Voucher Class	4	4
5	Account Reports • Account Books :- Cash/Bank Book(s), Sales/Purchase Register, Debit Note/Credit Note Register, Ledgers • Statement of accounts • Trial Balance, Balance Sheet, Profit and Loss Account • Exception Reports • Fund Flow • Ratio Analysis • Interest Calculations	2	2
6	Inventory Masters • Introduction to inventory • Creation of Company for Accounts With Inventory • Features and configuration for inventory • Stock group & categories • Godowns • Units of Measurement etc	2	4
7	Inventory Transactions • Inventory and Accounting vouchers involved in Purchase Procedure viz. Purchase Order, Goods Receipt Note, Purchase Invoice, Rejection Outwards and Debit Note	4	4
8	Inventory Transactions • Inventory and Accounting vouchers involved in Sales		

	Procedure viz. Sales Order, Delivery Note, Sales Invoice, Rejection Inwards and Credit Note		
	Total Hrs	**18**	**24**

13. Certificate course in Basic Repairing of Printer and Cartridges

Minimum Eligibility: VIII APPEARED/ PASS

Sl No	Topics	Theory Hours	Practical Hours
1	Introduction and Classification of Printer • What is Printer? • Types of Printer • Working Principle of Printer • Types of Cartridge and Ink	2 hrs	8 hrs
2	Printer Sharing • Laser Printer Sharing • Driver installation • Error finding • Various types of Troubleshooting of Laser Printer • Working Principle of Laser Printer	2 hrs	10hrs
3	Cartridge Refilling and Basic Repair of laser Printer • Cartridge Refilling(12A & 88A) • Basic Maintenance of Laser Printer	2 hrs	18hrs
	Total Hrs	6 hrs	36 hrs

B) The following Courses of 150 hours will be offered in different phases:

1. Diploma in Computer Application

Eligibility: XII APPEARED/ PASS

S. No	Topic	Theory Hours	Practical Hours
1	**Computer Fundamentals and Office Automation** **Unit – I Fundamentals of Computers** ● Diagram of Computer H/W, CPU ● Memory ● Concepts of H/W, S/W ● Concepts of OS ● Creating,Copying,Moving, Deleting Folder & Files ● Searching Folder or Files **Unit – II MS-Word** ● Clip board feature, Editing feature, Font ● Tables, Pages, Header & Footer, OLE ● Page Setup & Background, Colour, Footnote, Spelling & Grammar,word count, Protect Document ● Style, Border, Paragraph ● Mail Merge document ● Macro Recording & Executing **Unit – III MS-Excel** ● Workbook, worksheet, Excel functions ● AutoFilter, Advance Filter, Sorting ● Different types of Charts ● Data Validation, Hyperlink ● Pivot table, Insertion of symbol ● Macro Recording & Executing **Unit – IV MS-PowerPoint** ● Creating, Opening and Saving Presentations ● Creating the Look of Your Presentation ● Working in Different Views ● Working with Slides ● Adding and Formatting Text ● Adding Clip Art and other pictures ● Designing Slide Shows ● Running and Controlling a Slide Show	20	20
2	**Introduction to DBMS** **Unit–I Data Base Management System**	20	20

	● What is database?		

- ● What is database?
- ● Why database?
- ● Architecture of Database Management System
- ● Advantages of DBMS

Unit –II   Data Base Tables

- ● Tables- Introduction to Tables, Different Ways of creating a table,   Guidelines for naming fields
- ● Controls and Objects
- ● Create a table using the Table Wizard
- ● Designing a Table- Create a table from scratch using Design view
- ● Setting Primary Keys
- ● Modifying the Table Design - To insert the field within the table
- ● Rename a field name in a table
- ● Deleting Fields, Moving Fields, Changing a Field Size, Saving a Table
- ● Sorting and Filtering Data in a Datasheet - Quick-Sort Feature

Unit–III   Query Basics and SQL

- ● Query Basics- What is a Query? Usage of Queries, Types of Queries
- ● Steps for Creating a Query
- ● Removing a Field, Inserting a Field, Hiding Fields
- ● Working with Action Queries

3	**Internet and Web Page Designing**	15	20

Unit – I   Internet

- ● Evolution, Protocols, Interface Concepts
- ● Internet Vs Intranet
- ● Growth of Internet, ISP, Connectivity – Dial-up, Leased line
- ● URLs, Domain names, Portals
- ● POP and WEB Based E-mail
- ● Basic of Sending & Receiving E-mail
- ● E-mail Protocols
- ● FTP

Unit – II   World Wide Web (WWW)

- ● History, Working, Web Browsers and its functions
- ● Concept of Search Engines
- ● Searching the Web, HTTP, URLs, Web Servers, Web Protocols

Unit – III   Web Publishing

- ● Concepts
- ● Domain name Registration

	● Space on Host Server for Web site ● HTML ● Design tools ● HTML editors ● Image editors ● Issues on Web site creations & Maintenance ● FTP software for upload web site **Unit – IV HTML** ● Concepts of Hypertext ● Versions of HTML ● Elements of HTML syntax ● Head & Body Sections ● Building HTML documents ● Inserting texts, Images, Hyperlinks ● Backgrounds and Colour controls ● Different HTML tags ● Table layout and presentation ● Use of font size & Attributes ● List types and its tags		
4	**Soft Skills and Financial Literacy for Banking Skill with Application** **Unit – I Soft Skills and Communicative English** ● Brief introduction to: Spoken variety of English, the two chief spoken varieties-British and American; Indian English and idea of a neutral accent ● Refresher classes on English Grammar and Vocabulary ● Connected Speech: Word stress and sentence stress ● Reading from texts, computer aided teaching and learning exercises ● Entry behaviour evaluation, Introductory Module on Personality ● Presentation and speech giving techniques ● Module on Office Etiquette ● Module on Customer Care ● Telephone handling Techniques ● Module on Active Listening ● Module on Product features and benefits ● Module on objection handling and questioning Techniques ● Power point Presentation ● Module on Telemarketing and Prospecting ● Module on Complain handling and handling of difficult people ● Group Discussion	10	10

	● Conducting Mock interviews ● Interactive sessions **Unit – II Financial Literacy for Banking Scheme and Applications** ● Why savings are needed ● Why save in a bank ● Banking products-ATM card ● Banking Instruments-Cheque ● Demand Draft (DD) ● Banking Services Delivery Channels ● Know Your Customer (KYC) ● Opening of bank account and documents required ● Types of bank accounts ● Bank's services including remittances ● Mobile banking ● Password security and ATM withdrawal		
	Total	**65**	**70**
	Mini Project		**15**

2. Diploma in PC Hardware, Networking and Solar Technology (150 Hous)

Eligibility: XII APPEARED/ PASS

S. No	Topic	Theory Hours	Practical Hours
	HARDWARE AND NETWORKING		
1	Introduction to Computer, Uses of Computer, Different between Hardware & Software, Different types of components inside PC and its peripherals devices	2	
2	Identification and understanding of Different Motherboard Components, CPU, North Bridge & South Bridge, PCI Slot, DIMM slot, Power Connector, Computer Front Panel and Back Panel, Connectors		2
3	Understand different types of memory	2	
4	Different types of motherboard and cards which are used in computer Different types of motherboard, controller cards, display cards, sound card AGP cards FAX/Modem Cards, TV Tuner Cards, LAN Cards, Ethernet cards	2	2
5	Introduction to Number Systems (Decimal, Binary, Octal, Hexa)	2	
6	Booting concept of computer in DOS and Windows environment		2

7	BIOS setup utility and configuring the BIOS like booting sequence, system date, setting administrative password, USB enabling etc.		4
8	Formatting and partitioning of HDD		4
9	Installation of Operating System i.e. DOS/Windows, Off-line drive installation / online drive Installation/Pen Drive bootable		8
10	BIOS password break / Administrative password break		2
11	Driver backup/restore, Data recovery		4
12	Application types of application software and their Installation		4
13	Antivirus Software Installation/ different types of Antivirus Software/ Protect PC from Virus		2
14	Installation of multiple Operating System in a computer		4
15	Hard Disk drive installation and configuration setting, Use of CD ROM and DVD Drive		4
16	Power supplies installation and troubleshooting, Different types of SMPS identifications	2	2
17	Different types of monitors, Monitors, Mouse, Keyboard Repairing / Maintenance	2	2
18	Trouble shooting of different types of faults, Different computer cards identifications and troubleshooting		6
19	Different types of printers and their usage	4	
20	Repairing of different types of printers (LaserJet, inkjet etc.)		6
21	Antivirus and its current trends. Configuration and maintenance of virus protection programme	2	
22	Running of Scan disk and Disk defragmenter as part of preventive maintenance		2
23	Patches /service pack in Windows and its update in both.		2
24	Understand the beep codes error during POST, running of diagnostic tools		4
25	Preventing , Maintenance and Cleaning, servicing of computer	2	
26	Networking Concept, advantages, Network topologies, Types of networks, OSI model	2	
27	Networking Components - switches, bridges, routers, Gateways etc.		2
28	Transmission media- Guided media and Unguided media	2	
29	Crimping of cables straight cable , cross cable		2

30	IP configuration and working with various protocols, Installation of Network card in system and connecting system in LAN		6
31	Software based Firewall Installation & understanding firewall logs, virtual private network, VoIP	1	3
	SOLAR TECHNOLOGY		
1	Introduction to Solar PV Installer	2	
2	Basics of solar and electrical energy: AC, DC, Earthing, Circuit Designing, Related laws and formulas	3	
3	Basics of solar photovoltaic System: Components, types, Sun path Diagram, Technical parameters and performance	4	
4	Tools and equipment used for solar PV installation		4
5	Site Survey for solar PV installation: Load assessment, site assessment, customer requirement		6
6	Procure Solar PV Solar system components		3
7	Install Civil and mechanical parts of solar PV system: Mounting, equipment foundation, Install battery bank stand and inverter stand		6
8	Installation of electrical components of solar photovoltaic system: Install electrical components, conduits, cables, grounding system		6
9	Test and commission solar PV system: Testing of solar array, continuity, charge controllers, battery, start up system		5
10	Maintain solar photovoltaic system		3
11	Maintain personal health and safety at project site	2	
12	Customer orientation for a solar PV System: Demonstrate working principle and hand over of documents	2	
	Mini Project		

3) Diploma in Multimedia Animation (150 hrs)

Eligibility: XII APPEARED/ PASS

S. No	Topic	Theory Hours	Practical

			Hours
1	**Computer Appreciation:** What is a computer, basic structure of computer, data representation in computer [Binary number system, Hexadecimal number system, Binary to Decimal Conversion, Decimal to Binary Conversion, Binary Coded Decimal (BCD) Code, ASCII Code, UNICODE, representation of visual data.	4	
2	**Computer Organization:** **Central Processing Unit** Fundamentals of Control Unit, Arithmetic Unit, Instruction Set, Register. Concept of Processor Speed, illustration with popular processors. Basic introduction to GPU **Memory and Storage** Memory Organization, RAM., Read Only Memories, Flash memory. Basics of other storage devices – HDD, CD/DVD, Blue-Ray, magnetic tape etc. **Input Devices** Keyboard, Mouse, microphone, trackball, joystick, Scanner. OMR, Bar/QR-code reader, MICR Digitizer, Card Reader, cameras, fingerprint scanner and other biometric devices, tablets etc. **Output Devices** Display (CRT, LCD, LED), Printers - Dot matrix, Inkjet, laser, Plotters, Projector and visualiser, **Ports and Interfaces** Serial and Parallel ports, Connectors: DIN, RCA, AV; USB, Fire wire (IEEE1394), HDMI **Computer Software** Relationship between Hardware and Software; System Software, Application Software, compiler, assemblers, linkers, loaders	9	2
3	**Introduction to Multimedia:** Definition of Multimedia, Multimedia objects: Text, Graphics, Animation, Audio, images, Video. Definition of HyperText and HyperMedia. Multimedia Applications in Education, Entertainment. Advertising world etc. Components of a Multimedia System, Desirable	4	

	Features for a Multimedia System, requirements of Multimedia Communication		
4	**Representation of Multimedia Objects:** ● Representation of Analog Signals, A/D: Sampling and quantization ● Text: Font and their representation (bitmap, true type) ● Graphics: Raster & Vector representation, aliasing problems ● Image: (bit depth, resolution, color (RGB, CMYK, HSB), introduction to BMP, GIF, TIFF, PNG and JPEG formats) ● Audio (speech and wideband audio, sampling rate and aliasing, quantization, introduction to MP3, WMA, WAV, MIDI etc.) ● Video (frame rate and resolution, interlaced and non-interlaced video, colour planes (YCBCR, YUV), Video broadcast standards (PAL, NTSC, SECAM), HD Video, 3D TV, Video representation: AVI, MPEG, Quick Time, real video (.rm)	10	
5	**Concepts of Multimedia Editing:** Digital Audio, Music Sequencing and Notation, Image/Graphics Editing, Video Editing (Linear, Non-linear), Subtitling	2	8
6	**Introduction to Compression Technology:** Concept of lossy and lossless compression, Concept of rate-distortion characteristics, Basics image compression (JPEG, JPEG 2000), Basics of Audio compression (MP3, MP4), Basics of Video Compression (MPEG, H.264)	3	3
7	**Multimedia Application Design:** Content design, technical design, visual design, design metaphors, example studies, interactivity	2	8
8	**Multimedia Authoring and Publishing:** Definition of an Authoring System, uses of an authoring system, Definition and function of Authoring Metaphor, Different Metaphors. Offline Publishing: Flash, Power Point Online Publishing: HTML5, Dreamweaver	5	15
9	**Multimedia Processing Techniques:** Definition of Image, Raster Graphics, Vector Graphics, Digital Image Representation, Bit allocation for intensity range.	2	
10	**Digital representation of Color:** Basic color models (RGB, CMYK,HSV) and their use color	2	

	Characteristics, Color Palette, Monitor vs Print Display.		
11	**Introduction to MIDI:** Definition, MIDI Interfaces, MIDI Instruments, MIDI file structures, MIDI file formats	2	
12	**Image Editing: (Photoshop as reference software tool)** **Masks and Channels:** Working with masks and channels, Creating a quick mask, Editing a quick mask, Saving a selection as a mask, Editing a mask, Loading a mask as a selection and applying effects, Creating a gradient mask, Loading the gradient mask as a selection and applying effects. **Retouching and Repairing:** Using the Clone Stamp tool for repair, Using the Pattern Stamp tool to create, Using the Healing Brush and Healing Patch to repair flaws, History palette and snapshots. **Painting and Editing:** Using the Photoshop paint engine, Using blending modes, Painting shadows and highlights, Smoothing the edges of strokes, Using the History Brush and the Art History Brush, Brush palette, Painting with specialty brushes, Using the Color and Swatch palettes, Adding brush libraries, Saving customized preset brushes, Image and canvas size, Creating and painting with custom brushes, Pattern Maker filter. **Basic Pen Tool Techniques:** Drawing paths with the pen tool, Drawing straight paths, Drawing curved paths, Combining straight and curved lines, Drawing a path around artwork, Using keyboard shortcuts **Creating Special Effects:** Automating multi-step tasks, Playing and batch-playing actions, Using guides, Saving and loading a selection, Hand-coloring selections on a layer, Combining and moving selections, Colorizing a selection, Adjusting color balance, Applying filters, Creating a cutout effect, Improving performance with filters.	4	20
13	**Image and Graphic Pattern Generation:** (Adobe illustrator & Indesign as reference software tool) **Creating Basic Shapes:**		10

Setting up the document, Using the tools, Drawing shapes, Painting artwork, Copying & scaling shapes, Painting, Filling with color, Stroking with color, Building a custom palette, Copying paint attributes, Saturating colors, Painting with patterns and gradients, Painting with a pattern brush, Drawing with the Pen, Drawing straight lines, Drawing curves, Editing curves.

Working with Brushes:
Using the Art Brushes, Using Scatter Brushes, Changing the color attributes of brushes, Using a fill color with brushes, Using Calligraphic brushes, Using Pattern brushes, Using Pattern brushes, Creating brushes.

Transforming Objects:
Scaling objects, Rotating objects, Distorting objects, Changing the perspective, Using the Free Transform tool, Making multiple transformations.

Blending Shapes and Colors:
Creating a gradient fill, Adjusting the direction of the gradient blend, Adding colors to a gradient, Creating smooth-color blends, Blending intermediate steps, Modifying the blend, Combining blends with gradients, Creating Shapes with the Pathfinder, Uniting shapes, Removing shapes to create a new object, Intersecting objects, Trimming objects, Blending colors with the Soft Mix command, Blending colors with the Hard Mix command, Dividing shapes with the Divide command.

Creating Layers:
Moving objects and layers, Locking layers, Viewing layers, Pasting layers, Merging layers.

Creating Watercolor or Airbrush Effects:
Setting Smart Guide preferences, Painting with the gradient mesh tool, Specifying the number of mesh lines, Applying colors to the mesh, Highlighting a mesh object, Editing mesh points, Reflecting mesh objects, Modifying mesh lines.

Drawing Cylinders and Boxes:
Drawing three-dimensional objects, Drawing Cylinders, Drawing boxes.

	Printing Artwork & Producing Color Separations: Overview of printing, Color management, Printing B&W proofs, Document info command, Creating Color separations, Working with two-color illustrations, Creating a trap, Overprinting objects, Combining Photoshop & Illustrator, Vector vs. bitmap, Placing a Photoshop file, Copying a placed image, Adjusting color in a placed image, Masking an image, Sampling colors in placed images, Replacing a placed image. **Preparing Graphics for Web Publication:** Optimizing images for the Web, Exporting flat-color artwork, Exporting continuous- tone and gradient artwork, Linking objects in an image map to URL's.		
14	**Sound Editing: (Sonic Sound forge as reference software tool)** Introduction to Sound editing software, Working with existing sound files, Editing sound files, adding effect, Recording sound clips, Dubbing.		4
15	**Video Editing: (Adobe Premier as reference software tool)** Introduction to video editing tools, Importing and capturing projects, working with clips, Editing techniques, Transitions, Video Effects.		8
16	**VFX : After Efects Tools:** Chroma (Green Screen/ Blue Screen) cut/Rotoscoping/ Motion track/Special Effects/ Camera tracking/ Compositing.		5
17	**Application Examples/ Case studies:** Need for design, Design Specifics, Scripts, Storyboards, Advantages and Effectiveness of Storyboards, Flowcharts, Writing a script, Screen Layout Designs. Human Computer Interaction, Hypermedia & navigation.	2	6
	Mini Project		**10**

C) The following Courses of 175 hours will be offered in different phases:

1) Advance Diploma in Computer Application (175 hours)

Eligibility: GRADUATE (APPEARED/ PASSED)

S. No	Topic	Theory Hours	Practical Hours
1	**Computer Fundamentals and Office Automation**	20	20
	Unit – I Fundamentals of Computers		
	● Diagram of Computer H/W, CPU		
	● Memory		
	● Concepts of H/W, S/W		
	● Concepts of OS		
	● Creating,Copying,Moving, Deleting Folder & Files		
	● Searching Folder or Files		
	Unit – II MS-Word		
	● Clip board feature, Editing feature, Font		
	● Tables, Pages, Header & Footer, OLE		
	● Page Setup & Background, Colour, Footnote, Spelling & Grammar,word count, Protect Document		
	● Style, Border, Paragraph		
	● Mail Merge document		
	● Macro Recording & Executing		
	Unit – III MS-Excel		
	● Workbook, worksheet, Excel functions		
	● AutoFilter, Advance Filter, Sorting		
	● Different types of Charts		
	● Data Validation, Hyperlink		
	● Pivot table, Insertion of symbol		
	● Macro Recording & Executing		
	Unit – IV MS-PowerPoint		
	● Creating, Opening and Saving Presentations		
	● Creating the Look of Your Presentation		
	● Working in Different Views		
	● Working with Slides		
	● Adding and Formatting Text		
	● Adding Clip Art and other pictures		
	● Designing Slide Shows		
	● Running and Controlling a Slide Show		
2	**Introduction to DBMS**	20	20
	Unit–I Data Base Management System		
	● What is database?		

- Why database?
- Architecture of Database Management System
- Advantages of DBMS

Unit –II   Data Base Tables
- Tables- Introduction to Tables, Different Ways of creating a table,   Guidelines for naming fields
- Controls and Objects
- Create a table using the Table Wizard
- Designing a Table- Create a table from scratch using Design view
- Setting Primary Keys
- Modifying the Table Design - To insert the field within the table
- Rename a field name in a table
- Deleting Fields, Moving Fields, Changing a Field Size, Saving a Table
- Sorting and Filtering Data in a Datasheet - Quick-Sort Feature

Unit–III   Query Basics and SQL
- Query Basics- What is a Query? Usage of Queries, Types of Queries
- Steps for Creating a Query
- Removing a Field, Inserting a Field, Hiding Fields
- Working with Action Queries

3	**Internet and Web Page Designing** **Unit – I Internet** ● Evolution, Protocols, Interface Concepts ● Internet Vs Intranet ● Growth of Internet, ISP, Connectivity – Dial-up, Leased line ● URLs, Domain names, Portals ● POP and WEB Based E-mail ● Basic of Sending & Receiving E-mail ● E-mail Protocols ● FTP **Unit – II World Wide Web (WWW)** ● History, Working, Web Browsers and its functions ● Concept of Search Engines ● Searching the Web, HTTP, URLs, Web Servers, Web Protocols **Unit – III Web Publishing** ● Concepts ● Domain name Registration ● Space on Host Server for Web site	15	20

	● HTML		
	● Design tools		
	● HTML editors		
	● Image editors		
	● Issues on Web site creations & Maintenance		
	● FTP software for upload web site		
	Unit – IV HTML		
	● Concepts of Hypertext		
	● Versions of HTML		
	● Elements of HTML syntax		
	● Head & Body Sections		
	● Building HTML documents		
	● Inserting texts, Images, Hyperlinks		
	● Backgrounds and Colour controls		
	● Different HTML tags		
	● Table layout and presentation		
	● Use of font size & Attributes		
	● List types and its tags		
4	**Soft Skills and Financial Literacy for Banking Skill with Application** **Unit – I Soft Skills and Communicative English** ● Brief introduction to: Spoken variety of English, the two chief spoken varieties-British and American; Indian English and idea of a neutral accent ● Refresher classes on English Grammar and Vocabulary ● Connected Speech: Word stress and sentence stress ● Reading from texts, computer aided teaching and learning exercises ● Entry behaviour evaluation, Introductory Module on Personality ● Presentation and speech giving techniques ● Module on Office Etiquette ● Module on Customer Care ● Telephone handling Techniques ● Module on Active Listening ● Module on Product features and benefits ● Module on objection handling and questioning Techniques ● Power point Presentation ● Module on Telemarketing and Prospecting ● Module on Complain handling and handling of difficult people ● Group Discussion ● Conducting Mock interviews	10	10

	● Interactive sessions		
	Unit – II Financial Literacy for Banking Scheme and Applications		
	● Why savings are needed		
	● Why save in a bank		
	● Banking products-ATM card		
	● Banking Instruments-Cheque		
	● Demand Draft (DD)		
	● Banking Services Delivery Channels		
	● Know Your Customer (KYC)		
	● Opening of bank account and documents required		
	● Types of bank accounts		
	● Bank's services including remittances		
	● Mobile banking		
	● Password security and ATM withdrawal		
	Total	**65**	**70**
	Mini Project		**15**
	Major Project		**25**

2) Advance Diploma in Hardware, Networking and Solar Technology (175 hours)

Eligibility: GRADUATE (APPEARED/ PASSED)

S. No	Topic	Theory Hours	Practical Hours
	HARDWARE AND NETWORKING		
1	Introduction to Computer, Uses of Computer, Different between Hardware & Software, Different types of components inside PC and its peripherals devices	2	
2	Identification and understanding of Different Motherboard Components, CPU, North Bridge & South Bridge, PCI Slot, DIMM slot, Power Connector, Computer Front Panel and Back Panel, Connectors		2
3	Understand different types of memory	2	
4	Different types of motherboard and cards which are used in computer Different types of motherboard, controller cards, display cards, sound card AGP cards FAX/Modem Cards, TV Tuner Cards, LAN Cards, Ethernet cards	2	2
5	Introduction to Number Systems (Decimal, Binary, Octal, Hexa)	2	

6	Booting concept of computer in DOS and Windows environment		2
7	BIOS setup utility and configuring the BIOS like booting sequence, system date, setting administrative password, USB enabling etc.		4
8	Formatting and partitioning of HDD		4
9	Installation of Operating System i.e. DOS/Windows, Off-line drive installation / online drive Installation/Pen Drive bootable		8
10	BIOS password break / Administrative password break		2
11	Driver backup/restore, Data recovery		4
12	Application types of application software and their Installation		4
13	Antivirus Software Installation/ different types of Antivirus Software/ Protect PC from Virus		2
14	Installation of multiple Operating System in a computer		4
15	Hard Disk drive installation and configuration setting, Use of CD ROM and DVD Drive		4
16	Power supplies installation and troubleshooting, Different types of SMPS identifications	2	2
17	Different types of monitors, Monitors, Mouse, Keyboard Repairing / Maintenance	2	2
18	Trouble shooting of different types of faults, Different computer cards identifications and troubleshooting		6
19	Different types of printers and their usage	4	
20	Repairing of different types of printers (LaserJet, inkjet etc.)		6
21	Antivirus and its current trends. Configuration and maintenance of virus protection programme	2	
22	Running of Scan disk and Disk defragmenter as part of preventive maintenance		2
23	Patches /service pack in Windows and its update in both.		2
24	Understand the beep codes error during POST, running of diagnostic tools		4
25	Preventing , Maintenance and Cleaning, servicing of computer	2	
26	Networking Concept, advantages, Network topologies, Types of networks, OSI model	2	
27	Networking Components - switches, bridges, routers, Gateways etc.		2
28	Transmission media- Guided media and Unguided media	2	

29	Crimping of cables straight cable , cross cable		2
30	IP configuration and working with various protocols, Installation of Network card in system and connecting system in LAN		6
31	Software based Firewall Installation & understanding firewall logs, virtual private network, VoIP	1	3
SOLAR TECHNOLOGY			
1	Introduction to Solar PV Installer	2	
2	Basics of solar and electrical energy: AC, DC, Earthing, Circuit Designing, Related laws and formulas	3	
3	Basics of solar photovoltaic System: Components, types, Sun path Diagram, Technical parameters and performance	4	
4	Tools and equipment used for solar PV installation		4
5	Site Survey for solar PV installation: Load assessment, site assessment, customer requirement		6
6	Procure Solar PV Solar system components		3
7	Install Civil and mechanical parts of solar PV system: Mounting, equipment foundation, Install battery bank stand and inverter stand		6
8	Installation of electrical components of solar photovoltaic system: Install electrical components, conduits, cables, grounding system		6
9	Test and commission solar PV system: Testing of solar array, continuity, charge controllers, battery, start up system		5
10	Maintain solar photovoltaic system		3
11	Maintain personal health and safety at project site	2	
12	Customer orientation for a solar PV System: Demonstrate working principle and hand over of documents	2	
	Major Project		**25**

3. Advance Diploma in Multimedia Animation (175 hrs)
Eligibility: GRADUATE (APPEARED/ PASSED)

S. No	Topic	Theory Hours	Practical Hours
1	**Computer Appreciation:** What is a computer, basic structure of computer, data representation in computer [Binary number system, Hexadecimal number system, Binary to Decimal Conversion, Decimal to Binary Conversion, Binary Coded Decimal (BCD) Code, ASCII Code, UNICODE, representation of visual data.	4	
2	**Computer Organization:** **Central Processing Unit** Fundamentals of Control Unit, Arithmetic Unit, Instruction Set, Register. Concept of Processor Speed, illustration with popular processors. Basic introduction to GPU **Memory and Storage** Memory Organization, RAM., Read Only Memories, Flash memory. Basics of other storage devices – HDD, CD/DVD, Blue-Ray, magnetic tape etc. **Input Devices** Keyboard, Mouse, microphone, trackball, joystick, Scanner. OMR, Bar/QR-code reader, MICR Digitizer, Card Reader, cameras, fingerprint scanner and other biometric devices, tablets etc. **Output Devices** Display (CRT, LCD, LED), Printers - Dot matrix, Inkjet, laser, Plotters, Projector and visualiser, **Ports and Interfaces** Serial and Parallel ports, Connectors: DIN, RCA, AV; USB, Fire wire (IEEE1394), HDMI **Computer Software** Relationship between Hardware and Software; System Software, Application Software, compiler, assemblers, linkers, loaders	9	2

3	**Introduction to Multimedia:** Definition of Multimedia, Multimedia objects: Text, Graphics, Animation, Audio, images, Video. Definition of HyperText and HyperMedia. Multimedia Applications in Education, Entertainment. Advertising world etc. Components of a Multimedia System, Desirable Features for a Multimedia System, requirements of Multimedia Communication	4	
4	**Representation of Multimedia Objects:** ● Representation of Analog Signals, A/D: Sampling and quantization ● Text: Font and their representation (bitmap, true type) ● Graphics: Raster & Vector representation, aliasing problems ● Image: (bit depth, resolution, color (RGB, CMYK, HSB), introduction to BMP, GIF, TIFF, PNG and JPEG formats) ● Audio (speech and wideband audio, sampling rate and aliasing, quantization, introduction to MP3, WMA, WAV, MIDI etc.) ● Video (frame rate and resolution, interlaced and non-interlaced video, colour planes (YCBCR, YUV), Video broadcast standards (PAL, NTSC, SECAM), HD Video, 3D TV, Video representation: AVI, MPEG, Quick Time, real video (.rm)	10	
5	**Concepts of Multimedia Editing:** Digital Audio, Music Sequencing and Notation, Image/Graphics Editing, Video Editing (Linear, Non-linear), Subtitling	2	8
6	**Introduction to Compression Technology:** Concept of lossy and lossless compression, Concept of rate-distortion characteristics, Basics image compression (JPEG, JPEG 2000), Basics of Audio compression (MP3, MP4), Basics of Video Compression (MPEG, H.264)	3	3
7	**Multimedia Application Design:** Content design, technical design, visual design, design metaphors, example studies, interactivity	2	8
8	**Multimedia Authoring and Publishing:** Definition of an Authoring System, uses of an authoring system, Definition and function of Authoring Metaphor, Different Metaphors. Offline Publishing: Flash, Power Point Online Publishing: HTML5, Dreamweaver	5	15
9	**Multimedia Processing Techniques:**	2	

	Definition of Image, Raster Graphics, Vector Graphics, Digital Image Representation, Bit allocation for intensity range.		
10	**Digital representation of Color:** Basic color models (RGB, CMYK,HSV) and their use color Characteristics, Color Palette, Monitor vs Print Display.	2	
11	**Introduction to MIDI:** Definition, MIDI Interfaces, MIDI Instruments, MIDI file structures, MIDI file formats	2	
12	**Image Editing: (Photoshop as reference software tool)** **Masks and Channels:** Working with masks and channels, Creating a quick mask, Editing a quick mask, Saving a selection as a mask, Editing a mask, Loading a mask as a selection and applying effects, Creating a gradient mask, Loading the gradient mask as a selection and applying effects. **Retouching and Repairing:** Using the Clone Stamp tool for repair, Using the Pattern Stamp tool to create, Using the Healing Brush and Healing Patch to repair flaws, History palette and snapshots. **Painting and Editing:** Using the Photoshop paint engine, Using blending modes, Painting shadows and highlights, Smoothing the edges of strokes, Using the History Brush and the Art History Brush, Brush palette, Painting with specialty brushes, Using the Color and Swatch palettes, Adding brush libraries, Saving customized preset brushes, Image and canvas size, Creating and painting with custom brushes, Pattern Maker filter. **Basic Pen Tool Techniques:** Drawing paths with the pen tool, Drawing straight paths, Drawing curved paths, Combining straight and curved lines, Drawing a path around artwork, Using keyboard shortcuts **Creating Special Effects:** Automating multi-step tasks, Playing and batch-playing actions, Using guides, Saving and loading a selection, Hand-coloring selections on a layer, Combining and moving selections, Colorizing a selection, Adjusting color balance, Applying filters, Creating a cutout effect,	4	20

	Improving performance with filters.			
13	**Image and Graphic Pattern Generation:** (Adobe illustrator & Indesign as reference software tool) **Creating Basic Shapes:** Setting up the document, Using the tools, Drawing shapes, Painting artwork, Copying & scaling shapes, Painting, Filling with color, Stroking with color, Building a custom palette, Copying paint attributes, Saturating colors, Painting with patterns and gradients, Painting with a pattern brush, Drawing with the Pen, Drawing straight lines, Drawing curves, Editing curves. **Working with Brushes:** Using the Art Brushes, Using Scatter Brushes, Changing the color attributes of brushes, Using a fill color with brushes, Using Calligraphic brushes, Using Pattern brushes, Using Pattern brushes, Creating brushes. **Transforming Objects:** Scaling objects, Rotating objects, Distorting objects, Changing the perspective, Using the Free Transform tool, Making multiple transformations. **Blending Shapes and Colors:** Creating a gradient fill, Adjusting the direction of the gradient blend, Adding colors to a gradient, Creating smooth-color blends, Blending intermediate steps, Modifying the blend, Combining blends with gradients, Creating Shapes with the Pathfinder, Uniting shapes, Removing shapes to create a new object, Intersecting objects, Trimming objects, Blending colors with the Soft Mix command, Blending colors with the Hard Mix command, Dividing shapes with the Divide command. **Creating Layers:** Moving objects and layers, Locking layers, Viewing layers, Pasting layers, Merging layers. **Creating Watercolor or Airbrush Effects:** Setting Smart Guide preferences, Painting with the gradient mesh tool, Specifying the number of mesh lines, Applying colors to the mesh, Highlighting a mesh object, Editing mesh points, Reflecting mesh			10

	objects, Modifying mesh lines. **Drawing Cylinders and Boxes:** Drawing three-dimensional objects, Drawing Cylinders, Drawing boxes. **Printing Artwork & Producing Color Separations:** Overview of printing, Color management, Printing B&W proofs, Document info command, Creating Color separations, Working with two-color illustrations, Creating a trap, Overprinting objects, Combining Photoshop & Illustrator, Vector vs. bitmap, Placing a Photoshop file, Copying a placed image, Adjusting color in a placed image, Masking an image, Sampling colors in placed images, Replacing a placed image. **Preparing Graphics for Web Publication:** Optimizing images for the Web, Exporting flat-color artwork, Exporting continuous- tone and gradient artwork, Linking objects in an image map to URL's.		
14	**Sound Editing: (Sonic Sound forge as reference software tool)** Introduction to Sound editing software, Working with existing sound files, Editing sound files, adding effect, Recording sound clips, Dubbing.		4
15	**Video Editing: (Adobe Premier as reference software tool)** Introduction to video editing tools, Importing and capturing projects, working with clips, Editing techniques, Transitions, Video Effects.		8
16	**VFX : After Efects Tools:** Chroma (Green Screen/ Blue Screen) cut/Rotoscoping/ Motion track/Special Effects/ Camera tracking/ Compositing.		5
17	**Application Examples/ Case studies:** Need for design, Design Specifics, Scripts, Storyboards, Advantages and Effectiveness of Storyboards, Flowcharts, Writing a script, Screen Layout Designs. Human Computer Interaction, Hypermedia & navigation.	2	6
	Mini Project		**10**
	Major Project		**25**

Annexure –II
APPLICATION FORM

1	Training Center name	
2	Training Center Location	District: City/Village: Address: Contact Person Mobile No:

3	Full details of Centre In Charge
	    a) Name
	    b) Centre Address
	    c) Telephone No.
	    d) Mobile No.
	    e) E-Mail:
	    f) Fax No.
	    g) NIELIT Accreditation No:
	       or ESDM TP ID:
	       or NIELIT Facilitation No:
	       or WIL Registration No:
	       or CSC Number:	

4	Complete Address of the Centre with brief description of location	
5	Experience in conducting NIELIT courses (Mention the Course names etc.)	
6	Hardware Availability	Attach details
7	Software Availability	Attach details
10	Faculty Profile	Attach details

DECLARATION:

i. I,………………………………………………………………………………………………son/ daughter/wife of.. have read and understood the GUIDELINES / INSTRUCTIONS FOR CONDUCTING THE COURSE and agree to abide by the same.

ii. I certify that I am the competent authority, by virtue of the administrative and financial powers vested in me by .... to furnish the above information and to undertake the above stated commitment on behalf of the organization referred to in col.1 above.

iii. I am aware that in case any information given by me is found false or misleading my organization would be debarred from the conduction of the course besides being subjected to any other action that may be deemed fit by NIELIT, Kolkata.

iv. The details furnished with regard to faculty and infrastructure is correct to the best of my knowledge and belief and we will ensure availability of these facilities on a continued basis till we continue to offer candidates the courses applied for.

v. I agree to abide by the decisions of the NIELIT, Kolkata or its designated agencies in respect of my application for permission to offer candidates for the courses conducted by NIELIT, Kolkata

vi. I agree to all terms & conditions mentioned in the EOI Ref no: NIELIT/KOL/EOI/2019/01/156 dated 17/07/2019

Signature of the Witness: Signature of the

Authorized Signatory:

Name: Name:

Designation: Designation:

Date: Date:

Address: Address:

Seal of the organization   Seal of the organization

Annexure –III

To
The Director,
NIELIT Kolkata
Jadavpur University Campus

Name of the Course	Concurrence for Conduction of Course (Y/N)	Concurrence for Students' fees Collection and Payment to NIELIT Kolkata (Y/N)	Concurrence for remuneration (Y/N)	Concurrence to complete the procedures laid down by NIELIT Kolkata (Y/N)	Concurrence for ability by the rules & regulation (Y/N)
Diploma (150 Hours)					
Advance Diploma (175 Hours)					

I do hereby declare that I agree to all terms & conditions mentioned in the EOI Ref no: NIELIT/KOL/EOI/2019 /01/156 dated 17/07/2019 and all the statements made above are true and correct and I have given consent in full sense and without any influence. In case of any deviation NIELIT Kolkata may take appropriate action.

Signature of the Witness: Signature of the

Authorized Signatory:

Name: Name:

Designation: Designation:

Date: Date:

Address: Address:

Seal of the organization   Seal of the organization