Employment Notice No. 1/2022/STPI/NOIDA

Software Technology Parks of India (STPI) is providing Statutory Services to the exporters under STP/EHTP scheme and also extending infrastructural facilities including High Speed Internet and IPLC links. STPI at present has 62 centers at different locations in the country.

Applications are invited from the eligible candidates for filling up various below Group 'A' S&T and Non S&T vacancies given below in STPI. The following vacancies are proposed to be filled-up **by Transfer (absorption)/ Direct Recruitment basis.**

Post Code	:	ES-5	
Name of the post	:	**Member Technical Support Staff (MTSS) ES-V**	
Pay Level	:	**Level 6 (Rs. 35400 – 112400)**	
Age Limit (Max.)	:	For appointment on transfer (absorption) basis	56 years
		For appointment on direct recruitment basis	36 Years (Relaxation as per GOI rules)
No. of post & location	:	**02 (01-OBC, 01-SC) (*Out of these 02 posts, 01 post is reserved for Autism) (Bhubaneswar).**	
Mode of recruitment	:	Transfer (absorption)/ Direct Recruitment	

Essential Qualifications and Experience:

For Direct Recruits:

Three years Diploma in Electronics/ Computer Science/ Information Technology/ Telecommunication **OR** Bachelor in Electronics/ Computer Science/ Computer Application/ IT **OR** possessing DOEACC 'A' level certificate with **two** years experience.

For Transfer (absorption):

In case of transfer (absorption), officers of the Central / State Government / PSUs / Autonomous Bodies:

i) holding analogous post on regular basis.

OR

having Three (3) years regular service in Level 5 (Rs. 29200 - 92300).

AND

ii) Possessing qualifications prescribed for Direct Recruitment.

Post Code	:	A-3	
Name of the post	:	Assistant (A-III)	
Pay Level	:	Level 5 (Rs. 29200 – 92300)	
Age Limit (Max.)	:	For appointment on transfer (absorption) basis	56 years
		For appointment on direct recruitment basis	34 years (Relaxation as per Govt. of India Rules)
No. of post & location	:	I. 01 (UR) (Post is reserved for PH-HH) (Bhubaneswar) ii. 01 (UR) [Noida] (* Post is reserved for PH-VH)	
Mode of recruitment	:	Transfer (absorption)/ Direct Recruitment	

Essential Qualifications & Experience

For Direct Recruits:

Graduate in any discipline from a recognized university with **two** years experience in the field of personnel/administration/finance/vigilance etc. **OR** Post Graduate in any discipline from a recognized university with **one** year experience in the field of personnel/administration/finance/vigilance etc.

For Transfer (absorption):

In case of transfer (absorption), officers of the Central / State Government / PSUs / Autonomous Bodies:
i) holding analogous post on regular basis.
<div align="center">OR</div>
having Three (3) years regular service in Level 4 (Rs. 25500 - 81100).
<div align="center">AND</div>
i) possessing qualifications as prescribed for Direct Recruitment.

Post Code	:	A-2	
Name of the post	:	Assistant (A-II)	
Pay Level	:	Level 4 (Rs. 25500 - 81100)	
Age Limit (Max.)	:	For appointment on transfer (absorption) basis	56 years
		For appointment on direct recruitment basis	32 Years (Relaxation as per GOI norms)
No. of post & location	:	01 (UR) (Noida)	
Mode of recruitment	:	Transfer (absorption)/ Direct Recruitment	

Essential Qualifications and Experience:

For Direct Recruits:

Graduate in any discipline from a recognized University.
Desirable: Six month's certification course in Computer Operations.

For Transfer (absorption):
In case of Transfer (absorption), officers of the Central / State Government / PSUs / Autonomous Bodies:
i) holding analogous post on regular basis.
<div align="center">OR</div>
having Five (5) years regular service in Level 2 (Rs. 19900 - 63200).
<div align="center">AND</div>
ii) possessing qualifications prescribed for Direct Recruitment.

How to apply:
Candidates meeting the above eligibility requirements may fill up the application online available at website **https://noida.stpi.in**. Applicants are required to take the printout of the filled in Application Form and signed it and send the same alongwith duly attested copies of certificates (uploaded on the website) relating to qualification(s), date of birth, experience certificate(s), caste certificate etc. by the last date of receipt of application to the **Senior Administrative Officer, Software Technology Parks of India, Ganga Shopping Complex, Sector-29, Noida 201 303.** Name of the post applied for should invariably be mentioned on the top of the envelope containing application form.

Persons working in Central/ State Government/PSUs/Autonomous organizations may send their applications **through proper channel** aongwith the ACRs/APARs for last 5 years and their latest vigilance profile [(i) penalty imposed, if any during the last 10 years (ii) details disciplinary action initiated/ being initiated if any etc.]. However, a copy of the application may send in advance for consideration.

Application Fee: Candidate has to pay an application fee of Rs. 300/- (Rupees three hundred only) per application by Demand Draft/Indian Postal Order (IPO) in favour of 'Software Technology Parks of India', payable at Noida. The Demand Draft/ Indian Postal Order (IPO) should have been issued on or after the date of issue of this advertisement and not later than the last date for receipt of application.

OR Through NEFT/RTGS to the following Bank Account of this office directly:

Bank Name	Bank of India	Saving A/C Number	711710110001705
Beneficiary Name	Software Technology Parks of India	IFSC code	BKID0007117

OR Digital Payment through UPI (Unified Payments Interface) and BHIM (Bharat Interface for Money).UPI ID-"stpi@upi" and QR code for UPI payments to Software Technology Parks of India is available at **https://noida.stpi.in**. Candidates are advised to mention the Unique Transaction Reference (UTR) number/Transaction ID in the online application wherever sought. No fee is required to be paid by female candidates and candidates belonging to SC/ST/PH category. Fee once paid shall not be refunded. Candidates willing to apply for more than one post should submit SEPARATE applications with requisite fee.

Selection process: Received applications by the last date of receipt of applications shall be screened and screened – in candidates shall be called for written test at Noida. Candidate(s) shall be selected on the basis of merit of the written test and issued offer of appointment. Selected candidate(s) can be issued offer of appointment for any of the locations of STPI centers other than the location for which the candidate(s) has been selected. The written test will consist of Question from Generic area (Logical, Analytical Reasoning Capabilities, Quantitative, Qualitative abilities and Generic Awareness and Aptitude).

Last Date of receipt of applications: Within **45 days** of the publication of this advertisement in the Newspaper/Employment News on **9ᵗʰ April, 2022**. 10 days extra period shall be given in respect of applications received from the candidates residing in Assam, Meghalaya, Arunachal Pradesh, Mizoram, Manipur, Nagaland, Tripura, Sikkim, Union Territory of Ladakh, Lahaul and Spiti District and Pangi Sub Division of Chamba District of Himachal Pradesh, Andaman and Nicobar Islands and Lakshadweep. STPI shall not be responsible for any postal delay.

Opening Date for Submission of Online Application	:	09.04.2022
Closing Date of Receipt of Online Application	:	06.05.2022
Closing Date of Receipt of duly signed-in Application	:	21.05.2022
Closing Date of Receipt of duly signed-in Application from the remote area as mentioned above	:	31.05.2022

For information on general terms and conditions, the candidates may refer to STPI website **https://noida.stpi.in**.

-sd-
(Senior Administrative Officer)
STPI-Noida

1. Number of posts may vary. STPI reserves the right not to fill up any of posts, if it so decides.

2. **Age** shall be reckoned as on last date **(closing date)** of receipt of online application. The upper age limit in respect of Scheduled Castes, Scheduled Tribes, Other Backward Classes and persons with disabilities shall be relaxable as per Govt. of India instructions. The upper age limit in respect of the candidates serving with Government, working on regular basis in STPI, Ex-servicemen and other special categories of persons shall be relaxable in accordance with the orders issued by the Central Govt. from time to time.

3. The candidates evaluated on the basis of CGPA or else method shall have to provide in writing exact **Division** from concerned University.

4. The eligibility of the candidates in terms of educational qualifications, experience, age etc. will be determined on the information furnished by the candidate on the closing date for receipt of applications. No adding information shall be entertained after the closing date of receipt of applications.

5. In case of Transfer(absorption)/ Direct Recruitment, the appointment **shall be on two years probation period.** Confirmation/Termination of service shall be dealt as per DoPT's OM no.28020/3/2018-Estt.(C) dated 11th March, 2019 and Central Civil Services (Temporary Service) Rules 1965.

6. Immediate Absorption rule shall be applicable as per Govt. extant rules.

7. Candidates those who have applied on Absorption basis are requested to forward the necessary documents alongwith document certifying the date of appointment in the present grade and also certificate of equivalency of IDA pay-scale with CDA pay-scale (if applicable).

8. STPI reserves the right to operate the post(s) of higher grade in the lower grade and to offer the appointment to the candidate in lower grade.

9. Candidates seeking reservation against the reserved category posts shall upload their caste/category certificate in the prescribed FORMAT applicable for the Central Govt. Organization. Since allocation of candidates is based on the choice of centre expressed by the candidates, a candidate choosing a centre of another State to which he does not belong will not be prevented from appointment to the State where his choice of centre is located.

10. Mere fulfillment of qualifications and experience requirements does not entitle candidates to be called for written test to be held at Noida.

11. STPI reserves the right to fix the criteria for short listing the candidates to be called for written examination.

12. Candidates willing to apply for more than one posts, should submit SEPARATE applications with requisite fee.

13. In case any candidate found ineligible on any ground even after his/her appointment, his/her service will be terminated immediately without assigning any reason thereof.

14. Incomplete/unsigned applications will not be entertained and the application form without the copies of requisite certificates will be rejected.

15. No correspondence will be entertained from the candidates in connection with the process of **selection/ written test/appointment**. Canvassing in any form or bringing other influence shall make the candidature liable for rejection.

16. Candidate does not need to apply separately for each type of post for various locations against the particular employment notice. However, the candidate would able to fill his/her choice for locations according to his/her preference while filling the online application form. Since separate merit would be drawn for each location, their candidature shall be considered for the purpose of merit according to their preferences in the application form. If a candidate gets selected in his/her first preference of location, his/her candidature will be final for that location and shall not be considered for another location of the particular employment notice.

17. Selected candidate(s) can be issued offer of appointment for any of the locations of STPI centers other than the location for which the candidate(s) has been selected.

18. Candidates are warned that they should not furnish any false/misleading information/document or submit any document which is defective or fabricated or otherwise commit any act of misconduct in submitting the application form or during the course of recruitment. In case any such case is detected by STPI at any stage, during or after recruitment OR in case any candidate found ineligible on any ground, appropriate action shall be taken against the candidate. Any litigation will be subject to the jurisdiction of Noida court.

19. **Selection process:** Received applications by the last date of receipt of applications shall be screened and screened – in candidates shall be called for written test at Noida. Candidate(s) shall be selected on the basis of merit of the written test and issued offer of appointment. Selected candidate(s) can be issued offer of appointment for any of the locations of STPI centers other than the location for which the candidate(s) has been selected. The written test will consist of Question from Generic area (Logical, Analytical Reasoning Capabilities, Quantitative, Qualitative abilities and Generic Awareness and Aptitude). The detail for the same is as below:-

Name of the Post	Written Examination	Remarks
Member Technical Support Staff (MTSS) ES-V, Level 6 (Rs. 35400 – 112400)	A. General Intelligence & Reasoning -20 marks B. General Awareness – 20 marks C. Numerical Aptitude – 20 marks D. English Comprehension – 20 marks E. Technical area specific to STPI – 70 marks	Total 150 questions will be there containing one (01) mark for each question. Time duration of the paper will be 2½ hrs.
Assistant (A-III) Level 5 (Rs. 29200-92300) & Assistant (A-II) Level 4 (Rs. 25500 –81100)	A. General Intelligence & Reasoning -40 marks B. General Awareness – 35 marks C. Numerical Aptitude – 35 marks D. English Comprehension – 40 marks	Total 150 questions will be there containing one (01) mark for each question. Time duration of the paper will be 2½ hrs.

Category of Examination	Syllabus for Written Examination
General Intelligence & Reasoning:	It would include questions of both verbal and non-verbal type. .This component may include questions on analogies, similarities and differences, space visualization, spatial orientation, problem solving, analysis, judgment, decision making, visual memory, discrimination, observation, relationship concepts, arithmetical reasoning and figural classification, arithmetic number series, non-verbal series, coding and decoding, statement conclusion, syllogistic reasoning etc. The topics are, Semantic Analogy, Symbolic/ Number Analogy, Figural Analogy, Semantic Classification, Symbolic/ Number Classification, Figural Classification, Semantic Series, Number Series, Figural Series, Problem Solving, Word Building, Coding & de-coding, Numerical Operations, symbolic Operations, Trends, Space Orientation, Space Visualization, Venn Diagrams, Drawing inferences, Punched hole/ pattern-folding & un-folding, Figural Pattern – folding and completion, Indexing, Address matching, Date & city matching, Classification of centre codes/ roll numbers, Small & Capital letters/ numbers coding, decoding and classification, Embedded Figures, Critical thinking, Emotional Intelligence, Social Intelligence, Other sub-topics, if any.
General Awareness:	Questions in this component will be aimed at testing the candidates general awareness of the environment around him and its application to society. Questions will also be designed to test knowledge of current events and of such matters of every day observations and experience in their scientific aspect as may be expected of any educated person. The test will also include questions relating to India and its neighbouring countries especially pertaining History, Culture, Geography, Economic Scene, General Policy & Scientific Research.
Numerical Aptitude:	The questions will be designed to test the ability of appropriate use of numbers and number sense of the candidate. The scope of the test will be computation of whole numbers, decimals, fractions, and relationships between numbers, Percentage, Ratio & Proportion, Square roots, Averages, Interest, Profit and Loss, Discount, Partnership Business, Mixture and Allegation, Time and distance, Time & Work, Basic algebraic identities of School Algebra & Elementary surds, Graphs of Linear Equations, Triangle and its various kinds of centres, Congruence and similarity of triangles, Circle and its chords, tangents, angles subtended by chords of a circle, common tangents to two or more circles, Triangle, Quadrilaterals, Regular Polygons, Circle, Right Prism, Right Circular Cone, Right Circular Cylinder, Sphere, Hemispheres, Rectangular Parallelepiped, Regular Right Pyramid with triangular or square base, Trigonometric ratio, Degree and Radian Measures, Standard Identities, Complementary angles, Heights and Distances, Histogram, Frequency polygon, Bar diagram & Pie chart.
English Comprehension:	Candidates' ability to understand correct English, his basic comprehension, and writing ability, etc. would be tested.
Technical Area:	**Common for Physics, Maths, Electronics, Electronics & Communication, Computer Science and IT:** ALGEBRA, Determinants and Matrices : Definition, Order, Expansion of 2nd & 3rd order Determinants, Cramer's rule, Determinant value of a square matrix. Singular and non singular matrices, Adjoint of a matrix. Problems, Cayley – Hamilton's theorem, Inverse of a matrix Binomial Theorem : Meaning of nCr and its value. Binomial theorem for $(x + a)^n$, Expansion. Finding constant term, co-efficient of x^n, particular term and middle term(s). Logarithms : Definition of common and natural logarithms. Laws of logarithms. Vector Algebra : Magnitude of a vector, Types of vectors. Position vector, Addition and subtraction of vector in terms of line segment. Vector in a plane, Product of vectors. Scalar and vector product. Projection of a vector on another vector. Area of parallelogram and area of triangle. TRIGONOMETRY Definition of an angle, radian, Relation between degree & radian, Trigonometric identities. Trigonometric ratios of standard angles, Meaning of allied angles. Trigonometric ratios of allied angles in terms of θ, Complimentary angles and relation between trigonometric ratios of complimentary angles, Express sum or difference of Sine and Cosine of an angles in to product form, Express product of Sine and Cosine of angles in to sum or difference form, relation between sides of a triangle and Sines, Cosines and Tangents of any angle (Sine rule, Cosine rule and Tangent rule), Projection rule, Half angle formulae in terms of sides of a triangle, Inverse Trigonometric functions ANALYTICAL GEOMETRY : Defination of a point in a plane, Specification of a point using co-ordinate system, Points on Xaxis and Y-axis, Derivation of distance formula. Section formulae, Mid point formula, Centroid, area of a triangle and collinear points, Problems. Locus of a point with respect to a fixed point. and with respect to two fixed points and its equations, Inclination of a line with

horizontal line and its slope, Intercept of a straight line, Slope of a line parallel to X-axis and Y-axis, Derivation of conditions for two lines to be parallel and perpendicular, Angle between two lines, Point of intersection of lines. CALCULUS : Limits : Variables and Constants. Definition of function, Types of function, Direct and Inverse functions, Explicit and implicit function, Odd and even functions, Definition of limit of a function. Differential Calculus : Increment and increment ratio, Derivatives of functions of xn , sinx, cosx and tanx with respect to 'x' from first principle method, standard derivatives, Rules of differentiation: Sum, product and quotient of functions, Chain rule, Derivatives of inverse, Trigonometric functions, Hyperbolic functions and inverse of hyperbolic functions, Implicit functions, Parametric functions, Logarithmic differentiation, Successive differentiation up to second order. Maxima and minima of a function. Integral Calculus : Definition of Integration. List of standard integrals. Rules of integration, Integration by substitution method, Integration by parts, Definite integral, Theorems on definite integral, Find area, volume and rm s value of a function. Differential Equations : Definition, order and degree of differential equation, Formation of differential equation by eliminating arbitrary constants up to second order, Solution of D E of first degree and first order by variable separable method. Solution of differential equations reducible to variable separable form. Linear equations and its solution. Solution of differential equations reducible to linear form-Bernoulli's form. Homogeneous form and its solution. Solution of differential equations reducible to homogeneous form. Exact differential equation and its solution.

Electronics / Electronics & Communication (Diploma Level) Electronic Circuits : Power Supplies, Half wave, full wave and bridge rectifiers, voltage regulation, Regulators, IC regulators, UPS, types of UPS. Transistor biasing and small signal amplifiers, Transistor CE amplifier, Classification of amplifiers, Classification of FETS, Nchannel JFET, MOSFET, UJT, Tunnel diode, Optoelectronic devices, LDR, LED & LCD, photo diode & photo transistor, Feedback & Power amplifiers, Tuned power amplifier, Heat sink, Oscillators, RC phase shift oscillator, Wein bridge oscillator, tuned collector oscillator, Hartley, Colpitts, Crystal oscillator, Sweep circuits & Multivibrators, Boot-strap circuit, Miller sweep circuit, Current sweep circuit. Classification of multi vibrators, Astable, monostable and bistable multivibrators using transistors, Schmitt trigger, clippers and clampers, Operational amplifier, Timers & Phase Locked Loops, Differential amplifier. Communication Systems: Elements of communication system, TDM, FDM, Noise, Signal to noise ratio, Modulation techniques, AM & FM receivers. Transmission Lines and Wave Propagation, Electromagnetic waves, wave polarization and its types, reflection, refraction, diffraction, ground wave propagation, space wave propagation (LOS), sky wave propagation, ionosphere layers, critical frequency, MUF, virtual height, troposcatter propagation, Digital Modulation, Sampling theorem, pulse modulation, pulse code modulation, delta modulation, data compression, Data coding, asynchronous transmission, synchronous transmission, error detection and correction, Amplitude shift keying(ASK), frequency shift keying (FSK), phase shift keying (PSK), quadrature amplitude modulation (QAM), Multiplexing and multiple access techniques, Telephone modem, fax modem and data modem, cable modem, digital subscriber lines, ADSL, multiplexing and multiple access, FDM and TDM, FDMA and TDMA, spread-spectrum, code division multiple access (CDMA). Telephone System. Public switched telephone network(PSTN), manual and electronic equipment, EPABX, digital EPABX, FAX, Internet telephony. Antennas. Isotropic, half wave dipole antennas, Antenna arrays – broadside, end fire, Yagi Uda, log periodic, turnstile antennas, Parabolic reflectors, Dish antennas, VSAT and Cellular antennas. Microwave devices & Radars, Pulsed Radars, Duplexer, CW radar, radar Beacons, instrument landing system, Satellite Communication, Microwave link, classification of satellites, Geo-stationary Satellites, Fibre Optic Communication, Optical fibre, fibre optic cables, Splices, connectors, optical couplers, optical emitters (LED & LASER diode), optical detectors (PIN diode & APD), Submarine cables, Cable television applications, Mobile Communication: Evolution of Mobile Radio Communication, Cellular systems operation, Digital cellular mobile system, GSM standard, GSM architecture, CDMA systems, EDGE technology. Networking & LAN Network topologies : bus, star, ring, circuit switching, packet switching, message switching, router, OSI Model, WLAN characteristics, Bluetooth, WAP applications, WAN and WAN Protocols, Internet, internet devices, repeaters, bridges, routers, gateways, ARPA net, www, internal architecture of ISP, high level architecture of an ISP, Ways of accessing the internet, PSTN ISDN, Leased lines, DSL, cable modems, TCP/IP, Use of IP address, IP datagrams, classes of IP addresses, ports and sockets, Web Applications

Domain name system (DNS), Electronic mail, FTP, TELNET, proxy server Digital Electronics : Basics of Digital Electronics Binary, Octal. Hexadecimal number systems. Binary codes, excess-3 and gray codes. Logic gates, Boolean algebra, Demorgan's Theorems. Implementation of logic expressions, Karnaugh maps, Logic families. Combinational logic circuits, Sequential logic circuits, Flip-flops, Synchronous and asynchronous circuits, Shift Registers, Parallel in parallel out, universal shift registers, ring counter and its applications, Binary counter- ripple counter, synchronous counter, up-down counter. Memories, RAM, ROM, EEPROM,UVEPROM, static RAM, dynamic RAM, Flash ROM, NVRAM, A/D and D/A converters. Circuit Theory : Behaviour of Passive Components and Resonance in A.C. Circuits Active and passive elements, Mesh Current and Node Voltage Analysis, Kirchoff"s laws, Mesh currents, Network theorems. Thevenin's theorem, Norton's theorem, superposition theorem, reciprocity theorem and Maximum power transfer theorem, Coupled circuits, Transient Analysis & Linear wave shaping circuits, Mutual inductance, Transient Analysis at RC & RL circuits, Transient analysis of series and parallel RLC circuits for over damping cases, pulse wave form, differentiating and integrating circuits. Microprocessors, Microcontrollers : Microprocessor, Basic Microprocessor instructions, Addressing modes, instruction format, RISC verses CISC, Architecture of 8086, minimum and maximum modes, flag register, interrupts, Super scalar architecture, Architecture of 8051, registers, timers, interrupts, fetch cycle, execution cycle, machine cycle, state, Instruction set of 8051, instruction format, classification of instructions, addressing modes- Groups of instructions, data transfer, arithmetic, logical, branch, Data transfer, single and multi byte addition and subtraction, subroutines, nesting, multiple ending and common ending, use of Input output and machine related statements, debugging, time delay program. Electronic Measuring Instruments : Analog instruments, PMMC Instrument, extending the range of instruments, series and shunt type ohmmeter, FET input voltmeter, differential voltmeter, Wheatstone, Maxwell, Schering Bridge. Q meter, Distortion Factor Meter, Digital Instruments, Digital voltmeter, Digital Multimeter, Digital frequency meter, Digital LCR Meter. Digital IC tester, Logic analyser, spectrum analyser, Cathode Ray Oscilloscope, XY Plotter and Recorders. Signal Generators & Power meters, Audio and Video Systems : Audio Systems, Hi-Fi and stereo systems, disc recording and reproduction, magnetic recording and reproduction, optical recording, CD player, MP3 player, DVD player, TV Picture & Composite Video Signal Picture elements, Horizontal and vertical scanning, frame and field frequencies, Horizontal and vertical synchronisation, Horizontal and vertical blanking, T.V. Channel standards, Construction of composite Video signal, Linear scanning, standard scanning pattern. Flicker, sync Pulses, blanking signals. Monochrome and Colour Television, Additive and subtractive mixing of colours, Colour systems like NTSC, PAL, and SECAM. Colour TV Transmitter block diagram. Colour TV receiver block diagram (PAL). Colour video signal processing, operating and service controls, colour picture tube, degaussing. Satellite and Cable TV Cable TV, DTH system, DTH receiver, HD TV. Industrial Electronics :. Power Electronic Devices, SCR, Triac, Power BJT, IGBT, triggering of SCR using UJT, protection of power devices. Converters, AC Regulators & Choppers, Inverters, AC motors, DC motor control, Introduction-Speed control of DC shunt motor by using converters and choppers, speed control of induction motor by using AC voltage controllers, V/F control (Converters and invertors control). Transducers, strain gauge, variable resistance transducer, capacitive, inductive, piezoelectric, LVDT. Thermocouples, Transducer applications, accelerometers, Tachogenerators, Servomotors Computer Hardware : Motherboard, component layout, chip set, slots, serial port, parallel port, USB port, connectors, RAM, cache memory, HDD, FDD, sound card, Video grabber card, network card, Peripherals - Monitor, Keyboard, and mouse, Working of dot matrix, Laser and inkjet printers, Scanner – JPEG, MPEG – digital camera, CD writer, DVD player, Flash Drive, Windows Operating System, Power On Self Test, BIOS, Booting, autoexecutable batch file, config.sys file, windows registry, Device manager, control panel, viruses, PC assembly and Software Installation, Assembling PC, CMOS set up, Installation of OS, Installation of device drivers, system tools.

Computer Science/Information Technology (Diploma Level): Digital logic design, Digital circuits, Digital ICs, Comparison of TTL, CMOS and ECL logic Families, Number System - Binary, Octal, Decimal, Hexadecimal number system, BCD code, BCD arithmetic (addition, subtraction), Logic gates, Basic laws of Boolean algebra, Duality theorem, De Morgan's theorem, Combinational Logic Design, K-map representation of logical functions and minimization, standardization of SOP & POS, Half adder and full adder,

Half subtractor and full subtractor, Binary parallel adder, BCD adder, Multiplexers (4:1 and 8:1), Demultiplexer (1:4; 1:8; 1:16), Encoders and Decoder, Design of different code converter, BCD segment decoder, Comparator, Parity Checker and Generator, Flip Flops And Sequential Logic Design, One-bit memory cell, concept of clock signal, Triggering : edge triggering and level triggering, Excitation table of different Flip-Flop, Asynchronous counter (3 bit, 4 bit), mod N-counter, Synchronous counter, Shift register: SISO, SIPO, PISO, PIPO (4-bit) and Universal Shift register (4-bit), Classification of memories RAM, ROM, PROM, EPROM, EEPROM, Static and Dynamic RAM, A-D And D-A Converters Computer Organisation and Architecture : Basics of Computer system, Von Neumann Architecture and its features, Structure of CPU, function of Memory unit and IO unit, Concept of PC, Laptop, workstation, Server, Super Computer, Instruction structure and addressing modes, Execution steps of a typical instruction through different parts of CPU and memory, Different addressing modes, Memory and IO devices, Memory Hierarchy model, Cache memory, Mapping technique, Hit ratio, Replacement algorithm, virtual memory technique, address translation method, TLB, Programmed IO or Status check IO, Interrupt Mechanism, DMA data transfer, IO processor, Different types of interrupt, Priority interrupt, Simultaneous interrupt, DMA transfer modes, Control unit design issue, Hardwired Control unit design, Microprogrammed Control unit design, Horizontal and vertical microprogramming, RISC, CISC architecture and pipelining, instruction pipelining. Computer Networks : Network Models, Data and Signals, Bandwidth Utilization, Transmission Media, Switching, Error Detection and Correction, Data Link Control, Multiple Access, Wired LANs: Ethernet, Connecting LANs, Backbone Networks and Virtual LANs, Network Layer: Logical addressing, Network Layer : Internet Protocol, Network Layer :Delivery, forwarding and routing, Process to process Delivery : UDP, TCP, Congestion Control, Domain Name System, Remote Logging, Electronic Mail and File Transfer. Data Structures using C: Pointers, Dynamic Memory allocation, Files, data structures, The Stack, Queues, Linked lists, Trees, Sorting, Searching. Database Management Systems : Databases and database users, Database System Concepts and Architecture, Data Modeling Using the Entity-Relationship(ER) Model, Relational Data Model and Relational Database Constraints, The Relational Algebra, SQL: Schema Definition, constraints, queries and views, Functional Dependencies and normalization for relational databases, transaction processing concepts and theories, Concurrency Control Techniques, Database Recovery Techniques. Object Oriented Programming with C++: Object Oriented Programming, C++ Additional features, Classes and Objects, Operator Overloading, Inheritance, Virtual functions, Managing Console I/O Operations, Files, Templates. Operating System: Process management, Synchronization, Deadlocks, Memory management, Virtual memory management, File system. Software Engineering: Software Process, Software Requirements Analysis and Specifications, Software Architecture, Planning a Software Project, Design, Coding, Testing. Programming with Java: Classes, Objects and Methods, Strings and String Buffer Classes, Interface: Multiple Inheritance, Packages: Putting Classes Together, Multithreaded Programming, Managing Errors and Exceptions, Applet Programming, Graphics Programming. Web Programming: JavaScript & XHTML Documents, Dynamic Documents with JavaScript, XML, PHP, Database Access through the Web, Ruby. Software Testing: Testing levels and types, Static testing techniques, Dynamic testing, Managing the testing process, Software testing tools, Code of ethics for software professionals. Network security and Management: Organizational Policy and Security, Security infrastructure, Cryptography, Hardware & Software Security, Intrusion Detection System, Network Security, Wireless Security, Security & law, Internet governance and electronics mail policy. Information Storage and Management: Information Storage and Management, Direct Attached Storage & Introduction to SCSI, Storage System Environment, Data Protection: RAID, Intelligent Storage System, Storage Area Networks, Network-Attached Storage, Content Addressed Storage, Storage Virtualization, Backup and Recovery.