JUNIOR INSTRUCTOR
(INFORMATION COMMUNICATION TECHNOLOGY SYSTEM MAINTENANCE)

(SPECIAL RECRUITMENT FROM AMONG SC/ST)

INDUSTRIAL TRAINING

(Category No.093/2018)

Modue 1

Introduction to Computer components .Functional diagram of a computer. History of computers, generations and Types, of computers Advantages and Applications of Computers. Concepts of Hardware and Software.. Introduction to various processors. Introduction to the functions of an Operating System, Popular Operating Systems in Use. Linux Commands.

Modue 2

Introduction to the booting process. BIOS settings and their modification. Introduction to various types of memories and their features. The Memory Hierarchy - Cache Memory Principles -Semiconductor Main Memory – Organization –DRAM and SRAM –Types of ROM .Introduction to microprocessors. Architecture of 8086 Microprocessors-Bus interface unit and Execution unit. Interrupts of 8086

Module 3

Basic C programming Concepts. – The C Character Set – Constants, Variables and Keywords Key Words – C Instructions -Type Declaration - Arithmetic Instruction –Hierarchy of Operations .Control Instructions in C .decision control structures logical operators ,conditional operators , loop Control Structures Case Control Structure, Usage of functions Scope rule of Functions – Function declaration and prototypes – Call by value and Call by reference-One and two dimensional arrays. Structures

Module 4

Concepts of Data, Information and Databases. Concept of Entity, attribute, tuple . Overview of popular databases, SQL- ,Features of SQL –,Data types in SQL   CREATE TABLE command, Constraints – NULL,DEFAULT,CHECK, PRIMARY KEY, UNIQUE, referential Integrity – INSERT, UPDATE,ALTER ,MODIFY and DELETE command, SELECT statements with WHERE, ORDER BY clause - Aggregate and scalar functions in SELECT statements. Integrity rules and constraints in a table.

Module 5

State the basic concepts of Object Oriented Programming. Explain classes, objects and methods, constructors, describe the concepts of overloading, polymorphism and inheritance. Different types of Inheritances. Explain Visibility controls Describe class objects as data members. Explain base and derived class. Virtual function

Module 6

Introduction to Computer Networks, Necessity and Advantages. Client Server and peer to Peer networking concepts. Concept of Proxy Server and proxy firewall server. Network topologies. Introduction to LAN, WAN and MAN. Network components, viz. Modem, Hub, Switch, Router, Bridge, Gateway etc. Network Cables, Wireless networks and Blue Tooth technology. Concept of ISO - OSI 7 Layer Model. Overview of various

Network protocols Viz. TCP/IP, FTP, Telnet etc. Logical and Physical Addresses, Classes of Networks. Network Security and firewall concepts. DHCP server

Module 7

Internet - Internet Protocol Address - Domain Names - World Wide Web - Web Browsers - Web Servers and search engines. URL,MIME ,HTTP. Concept of Cloud storage and Open Web Server. Introduction to Internet Security. Threats and attacks. Malicious Software types, Concept of Internet and Cyber security. Internet security products and their advantages.

Module 8

HTML tags and attributes – table, form, frame -, format tags, and image tags .CSS - Java script – programming, event handling, data validation, dynamic documents, positioning elements, moving elements, element visibility, font and colour changing, dynamic content. Server Side Scripting .Advantages of PHP,PHP language elements ,Data Types, Variables ,Constants ,Operators and Expressions .Control Structures - Arrays ,Functions Form Handling

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper