

**FURTHER DETAILS REGARDING MAIN TOPICS OF
PROGRAMME No. 12/2019 (Item No.28)**

**JUNIOR INSTRUCTOR
(MULTIMEDIA ANIMATION AND SPECIAL EFFECTS)**

INDUSTRIAL TRAINING

(Category No.373/2017)

MODULE - I

COMPUTER ARCHITECTURE

The Von Neumann and Harvard architecture - computer components - computer functions - Instruction Fetch and Execute - Interrupts - I/O Function - Interconnection structures - Bus Interconnection - Multiple Bus Hierarchies

Memory Hierarchy - Cache Memory Principles - Semiconductor Main Memory - Organisation - DRAM and SRAM - types of ROM

External Memory - Magnetic Disk - Magnetic Read and Write Mechanism - Data Organization and formatting - Physical Characteristics - RAID - Level 0,1,2,3,4,5,6 - Optical Memory - Compact Disk - Digital Versatile Disk - High Definition Optical Disks
Input/Output Devices - Keyboard/Monitor - Disk Drive - I/O Modules - Module function - I/O Module Structure - Programmed IO, Interrupt Driven IO, DMA

Processor organization - CISC & RISC - Register organization - User visible Registers - Control and Status Registers - Instruction Cycle - The Indirect Cycle - Data Flow - Instruction Pipelining

Control Unit Organization - Micro operations - Fetch, Indirect, Interrupt, Execute, Instruction Cycles - Control of the Processor -

Hardwired & Micro programmed control - Parallel processing - Multiple processor organization

MODULE - II

INFORMATION TECHNOLOGY - ETHICAL AND SOCIAL ISSUES

IT in communication, Business, Governance, Medicine, Office Automation and Health Care, Education, Science, Entertainment, Engineering Manufacturing, IT Policy in the State

E-Commerce - Types of e-commerce, B2B, B2C, C2C, P2P, M - commerce. On-line trading and Net-Banking

Ethical and social issues related to systems - Key Technology Trends that Raise Ethical Issues - Ethics in an information Society-Basic Concepts : Responsibility, Accountability and Liability, Ethical Analysis - Candidate Ethical Principles - Professional Codes of Conduct

Information Rights : Privacy and Freedom in the Internet Age

Property Rights : Intellectual Property, Accountability, Liability and Control, System Quality

INFORMATION SECURITY

Computer Security : Security concepts - Security aspects in communication - Security requirements

Cryptography : Symmetric encryption Algorithms - Authentication Methods - Access control - Principles, Policies, Requirements - UNIX File Access Control

Intrusion and Detection - Malicious Software - Denial of Service - Firewall Operating System Vulnerabilities : Windows OS vulnerabilities - Linux OS vulnerabilities - Countermeasures

MODULE - III

MS OFFICE AND INTERNET

Windows - Desktop, Taskbar, Start Menu, My Computer, Windows Explorer, Recycle Bin - Accessories - Calculator, Notepad, Paint, Wordpad.

MS Word - Text Formatting Features - Paragraph Change Case, Font, Tabs, Drop Cap, Bullets and Numbering, Advanced Formatting Features - Borders and Shading, AutoShape, Caption, Columns, Text Box, Footnote, Tables and Drawing Features - Insert Table, Draw Table, Formula, Sort, Forms Graphics - Word Art and Clip Art, Tools - Mail Merge, Spelling and Grammar, Thesaurus, Autocorrect

MS Excel - Worksheets, Cell, Cell Range Operations, Fill Series, protecting Worksheets Functions - sum, average, if. Financial and Statistical Functions, Mathematical Functions. Database Operations Sort, Filter - Auto filter and Advanced filter. Subtotals, Table, Validation Charts - Column, Pie, XY, Line, Scatter.

MS Powerpoint - Graphics and image file formats, and its restrictions to particular hardware/operating system platforms. Platform independent formats. Image formats and incorporation of compression technique for large storage size of Image files. Vector Graphics and Raster Graphics, Screen Graphics and Pixel Graphics :-formats like ai, pdf, eps, svg, svgz, psd, bmp, gif, jpg, pcx, pct, png, raw, sct, tga, tiff, vst.

PHOTOSHOP

Image editing, Photo re-touching, colourful image, collages, artistic backgrounds.

Creation of the optimized images with roll over effects and image mapping. Special effects on images.

MODULE - IV

WEB PROGRAMMING

Internet - Internet Protocol Address - Domain Names - World Wide Web - Web Browsers - Web Servers - URL - MIME - HTTP HTML - tags - attributes - table - form - frame - format tags - image tags - embedding multimedia

CSS - Java script - programming - event handling - data validation - dynamic documents - positioning elements, moving elements, element visibility, font and colour changing, dynamic content

MULTIMEDIA AND ANIMATION

Multimedia Hardware - sound cards, video accelerators, various memory storage devices, Display devices Media Types - Text - Hyper text, Audio and Video file formats - standards, Image - Image types - Image Compression, RLE, JPEG, MPEG - Fractal and wavelet

Compressions - Image file types

Animation tools - Maya, Director, flash

Drawing tool - colors - filters

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

SYLLABUS

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