

GOVERNMENT OF JAMMU AND KASHMIR
J&K SERVICES SELECTION BOARD
Hema Complex, Sector -3, Channi Himmat, Jammu
www.jkssb.nic.in

NOTICE

The Jammu and Kashmir Services Selection Board has advertised the post of Jr.Programmer, Item No 308, Computer Instructor/Operator, Item No 309, Kashmir Division, (Skill Development Department) vide Advertisement Notification No. 07 of 2020 and Career Counselling Officer, Item No 074, UT Cadre, (Labour & Employment Department) vide Advertisement Notification No. 04 of 2020. The system for the said posts has been furnished by the concerned Indenting Department which is notified as the annexures to this notification.

The candidates are also intimated that there shall be negative marking for wrong answers (-0.25 for each wrong answer) attempted in the said examination.

This notice is for the purpose of intimation of the concerned candidates only.

(Sachin Jamwal) JKAS
Secretary
J&K Services Selection Board
Jammu

No. SSB/Secy/Sel/2021/7792-96

Dated: 20.11.2021

Copy to the: -

1. Director Information, J&K Government, Jammu with the request to get the said notification (except annexure which shall be available on the official website of the JKSSB) published in at least three leading local newspaper of Jammu/Srinagar for three consecutive dates.
2. Controller of Examination, JKSSB for information.
3. Private Secretary to the Chairman, JKSSB for information of the Chairman.
4. I/c Web site.
5. Syllabus file.

SYLLABUS FOR THE POST OF JUNIOR PROGRAMMER

1. COMPUTER PROGRAMMING USING 'C'

Algorithm and Programming Development, Program Structure, Control Structures, Functions, Arrays, Pointers, Structures and Unions, Strings, Files.

2. DATABASE MANAGEMENT SYSTEM (RDBMS)

Database System Concepts and Architecture, Data Modeling using E.R. Model (Entity Relationship Model), Relational Model, Normalization, Database Access and Security, MYSQL/SQL (Structured Query Language)

3. OPERATING SYSTEMS

Process Management Functions (Principles and Brief Concept); Job Scheduler, Process Scheduler, Process synchronization. Memory Management Function (Principles and Brief Concept); Introduction, Single Process System, Fixed Partition Memory, System Loading, Segmentation, Swapping, Simple Paging System, Virtual Memory. I/O Management Functions (Principles and Brief Concept); Dedicated Devices, Shared Devices, I/O Devices, Storage Devices, Buffering, Spooling. File Management; Principles and Brief Concept, Types of File System; Simple file system, Basic file system, Logical file system, Physical file system. Dead Lock; Condition for Dead lock, Dead Lock Preventions, Dead Lock Avoidance.

4. DATA STRUCTURES

Problem solving concept, top down and bottom up design, structured programming, Concept of data types, variables and constants, Concept of pointer variables and constants, Arrays, Linked Lists, Stacks, Queues and Recursion, Trees. , Search algorithm (Linear and Binary), Concept of sorting, sorting algorithms (Bubble Sort, Insertion Sort, Quick Sort, Selection Sort, Merge Sort, Heap Sort) and their comparisons.

5. OBJECT ORIENTED PROGRAMMING USING C++

Fundamentals of object oriented programming – procedure oriented programming. Object oriented programming concepts – Classes, reusability, encapsulation, inheritance, polymorphism, dynamic binding, message passing, data hiding., Review of constructs of C used in C++ : variables, types and type declarations, user defined data types; increment and decrement operators, relational and logical operators; if then else clause; conditional expressions, input and output statement, loops, switch case, arrays, structure, unions, functions, pointers; preprocessor directives, Classes and Objects, Member Functions, Overloading Member Functions, Inheritance, Polymorphism and Virtual Functions, File and Streams.

6. JAVA PROGRAMMING

Java Virtual Machine (JVM), Java In Time (JIT) compiler, JDK, Working with data types, control flow statements, arrays, casting, command line arguments, Java Classes and Memory Management, Interfaces and Packages, Exception Handling and Stream Files, Threads and Multi-threading, Java Data Base Connectivity (JDBC).

7. VISUAL PROGRAMMING USING (.NET)

Introduction to .NET framework, feature of .Net framework, architecture and component of .Net, VB.NET Basics, Visual Basic .NET Programming Language-Variables & Data Type, Strings, Arithmetic Operators, Building the project, Common Control Controls, Functions Call and Arguments, Select Case, Loops, Nesting of Loops, Decision Structures, Error handling using Try.. Catch Block, Database Connectivity

8. SOFTWARE ENGINEERING

Size factors. Quality and productivity factors. Management issues, Models: waterfall, spiral, prototyping, fourth generation techniques, s/w process, Introduction to agile technologies.

Cost factors, cost estimations techniques. Staffing level estimation, estimating software maintenance costs, COCOMO.

Problem analysis, requirement engineering. The software requirements specifications (SRS), formal specifications techniques, characteristics of a good SRS.

Quality assurance work through and inspections static analysis, symbolic execution unit testing, formal verifications. Black box and white box testing techniques.

Definition of Quality, Quality Concepts, Quality Control, Quality Assurance, SQA Activities, Software Reviews, Inspections, Walkthroughs, Formal Technical Reviews, Review Guidelines, Quality Assurance Standards, ISO 9000, ISO 9001:2000, ISO 9126, CMM, TQM, TQM principles, Six Sigma, SPICE.

Risk Management and Configuration Management

9. COMPUTER NETWORKS

Concept of network, Models of network computing, Networking models, Peer-to-peer Network, Server Client Network, LAN, MAN and WAN, Network Services, Topologies, Concept of switching, Switching Techniques, OSI Reference Model.

Concept of physical and logical addressing, Different classes of IP addressing, special IP address, Sub netting and super netting, Loop back concept, IPV4 and IPV6 packet Format, Configuring IPV4 and IPV6.

Network Security, Introduction to basic encryption and decryption, concept of symmetric and asymmetric key cryptography, overview of DES, RSA and PGP. Introduction to Hashing: MD5, SSL, SSH, HTTPS, Digital Signatures.




Computer Network Attacks, Active Attacks, Passive Attacks, Stealing Passwords, Social Engineering, Bugs and Backdoors, Authentication Failures, Protocol Failures, Information Leakage, Denial-of-Service Attacks, Botnets, Phishing Attacks.

10. INTERNET AND WEB TECHNOLOGIES

Telephone line, cable, leased line, ISDN, VSAT, RF link. World Wide Web and its evolution, web page, web server, HTTP protocol. Examples of web servers. Navigation Tools: Mozilla Firefox, Google Chrome, Internet Explorer, Uniform Resource Locator (URL). Hypertext, hyperlinks and hypermedia, URL, its registration, browsers, search engines, proxy servers. Basics of authentication and authorization. Introduction to firewall, various techniques of encryption and decryption, SSL (Secure Socket Layer).

S

M

SYLLABUS FOR THE POST OF COMPUTER INSTRUCTOR/OPERATOR

Computer Basics

Characteristics of Computers, Input, Output, Storage units, CPU, Computer System, Binary number system, Binary to Decimal Conversion, Decimal to Binary Conversion, ASCII Code, Unicode.

Computer Organization

Central Processing Unit - Processor Speed, Cache, Memory, RAM, ROM, Booting, Memory- Secondary Storage Devices: Floppy and Hard Disks, Optical Disks CD-ROM, DVD, Mass Storage Devices: USB thumb drive. Managing disk Partitions, File System Input Devices - Keyboard, Mouse, joystick, Scanner, web cam, Output Devices- Monitors, Printers - Dot matrix, inkjet, laser, Multimedia- What is Multimedia, Text, Graphics, Animation, Audio, Images, Video; Multimedia Application in Education, Entertainment, Marketing. Names of common multimedia file formats, Computer Software- Relationship between Hardware and Software; System Software, Application Software, Compiler, names of some high level languages, free domain software.

Operating System

Microsoft Windows- An overview of different versions of Windows, Basic Windows elements, File management through Windows. Using essential accessories: System tools - Disk cleanup, Disk defragmenter, Entertainment, Games, Calculator, Imaging - Fax, Notepad, Paint, WordPad. Command Prompt- Directory navigation, path setting, creating and using batch files. Drives, files, directories, directory structure. Application Management: Installing, uninstalling, Running applications. Linux- An overview of Linux, Basic Linux elements: System Features, Software Features, File Structure, File handling in Linux: H/W, S/W requirements, Preliminary steps before installation, specifics on Hard drive repartitioning and booting a Linux system.

Word Processing

Word processing concepts: saving, closing, Opening an existing document, Selecting text, Editing text, Finding and replacing text, printing documents, Creating and Printing Merged Documents, Character and Paragraph Formatting, Page Design and Layout. Editing and Profiling Tools: Checking and correcting spellings. Handling Graphics, Creating Tables and Charts, Document Templates and Wizards.

Spreadsheet Package

Spreadsheet Concepts, Creating, Saving and Editing a Workbook, Inserting, Deleting Work Sheets, entering data in a cell / formula Copying and Moving from selected cells, handling operators in Formulae, Functions: Mathematical, Logical, statistical, text, financial, Date and Time functions, Using Function Wizard. Formatting a Worksheet: Formatting Cells - changing data alignment, changing date, number, character or currency format, changing font, adding borders and colors, Printing worksheets, Charts and Graphs - Creating, Previewing, Modifying Charts. Integrating

[Handwritten signature]

[Handwritten initials]

word processor, spread sheets, web pages.

Presentation Package

Creating, Opening and Saving Presentations, Creating the Look of Your Presentation, Working in Different Views, Working with Slides, Adding and Formatting Text, Formatting Paragraphs, Checking Spelling and Correcting Typing Mistakes, Making Notes Pages and Handouts, Drawing and Working with Objects, Adding Clip Art and other pictures, Designing Slide Shows, Running and Controlling a Slide Show, Printing Presentations.

Data Base Operations

Data Manipulation-Concept: Database, Relational Database, Integrity. Operations: Creating, dropping, manipulating table structure. Manipulation of Data: Query, Data Entry Form, Reports.

Information Technology and Society

Indian IT Act, Intellectual Property Rights - issues. Application of information Technology in Railways, Airlines, Banking, Insurance, Inventory Control, Financial systems, Hotel management, Education, Video games, Telephone exchanges, Mobile phones, Information kiosks, special effects in Movies.

Introduction to Internet

Internet, Growth of Internet, Owners of the Internet, Anatomy of Internet, ARPANET and Internet history of the World Wide Web, basic Internet Terminology, Net etiquette. Internet Applications - Commerce on the Internet, Governance on the Internet, Impact of Internet on Society - Crime on/through the Internet.

TCP/IP - Internet Technology and Protocol

Packet switching technology, Internet Protocols: TCP/IP, Router, Internet Addressing Scheme: Machine Addressing (IP address), E-mail Addresses, Resources Addresses

Internet Connectivity

Connectivity types: level one, level two and level three connectivity, Setting up a connection: hardware requirement, selection of a modem, software requirement, modem configuration, Internet accounts by ISP: Telephone line options, Protocol options, Service options, Telephone line options - Dialup connections through the telephone system, dedicated connections through the telephone system, ISDN, Protocol options - Shell, SLIP, PPP, Service options - E-mail, WWW, News Firewall etc.

Internet Network

Network definition, Common terminologies: LAN, WAN, Node, Host, Workstation, bandwidth, Interoperability, Network administrator, network security, Network Components: Servers, Clients, Communication Media, Types of network: Peer to Peer, Clients Server, Addressing in Internet: DNS, Domain Name and their organization, understanding the Internet Protocol Address. Network topologies: Bust, star and ring, Ethernet, FDDI, ATM and Intranet

Services on Internet (Definition and Functions)

E-mail, WWW, Telnet, FTP, IRC and Search Engine

Electronic Mail

Email Networks and Servers, Email protocols -SMTP, POP3, IMAP4, MIME6, Structure of an Email - Email Address, Email Header, Body and Attachments, Email Clients: Netscape mail Clients, Outlook Express, Web based E-mail. Email encryption- Address Book, Signature File.

Current Trends on Internet

Languages, Internet Phone, Internet Video, collaborative computing, e-commerce.

Web Publishing and Browsing

Overview, SGML, Web hosting, HTML, CGL, Documents Interchange Standards, Components of Web Publishing, Document management, Web Page Design Consideration and Principles, Search and Meta Search Engines, WWW, Browser, HTTP, Publishing Tools

HTML Programming Basics

HTML page structure, HTML Text, HTML links, HTML document tables, HTML Frames, HTML Images, multimedia

Interactivity Tools

ASP, VB Script, JAVA Script, JAVA and Front Page, Flash

Internet Security Management Concepts, Information Privacy and Copyright Issues

Overview of Internet Security, Firewalls, Internet Security, Management Concepts and Information Privacy and Copyright Issues, basics of asymmetric cryptosystems

[Handwritten signature]

[Handwritten mark]

Post:- Career Counselling Officer

Multiple Choice Based Written test

Reference Guidelines and Syllabus

120 Marks/120 Minutes

GENERAL KNOWLEDGE AND CURRENT AFFAIRS WITH SPECIAL REFERENCE TO J&K

24 Marks

- Abbreviations, Important dates, popular names of personalities and their achievements/Contribution (National and International).
- Constitution of J&K – Formation, Fundamental rights, Directive Principles.
- Weather, Climate, Crops, Means of Transport.
- Important power projects and their impact on State Economy.
- Rivers and Lakes.
- Important Tourist Destinations.
- History of J&K State.
- Historical places of the State and their importance.
- RTI Act.
- Indus Water Treaty and its impact on State economy.
- Current Affairs related to Policies of Govt. of India
- Other events of National importance

English or Verbal Section

24 Marks

Grammar, Para Completion and inference, Reading Comprehension, Verbal Logic, Parajumbles, Syllogisms, Contextual usage, Analogies, Different usage of same word, Antonyms, Jumbled Paragraphs, Sentence correction, Idioms and One word Substitution.

Analytical Reasoning Section

24 Marks

Blood Relations, Direction Sense, Puzzles, Data Arrangement, Data Structures, Series Coding-Decoding, Clocks and Calenders, Family Tree, Venn Diagram, Syllogism, Proposition, Assumptions, Statements, Binary Logic and Sets.

Mathematics or Quantitative Section

24 Marks

Geometry, Trigonometry Mensuration Ratios and Proportion, Number System, Work and Time, HCF & LCM, Algebra, Profit and Loss, In-equations Quadratic and Linear Equations, Geometric Progression, Percentages, Averages, Partnership (Accounts), Time-Speed-Distance, Surds and Indices, Inequalities and Logarithms.

Data Interpretation Section

24 Marks

Tables, Bars, Pie Charts, Line Graphs, Caselets and Data Sufficiency
