Dr. Panjabrao Deshmukh Krishi Vidhyapeeth,

Syllabus for the post of Programme Assistant (Computer) for KVK

The details of the Online Written Test to be conducted will be as under :

1) The question paper will contain **200** questions of 1 Mark each having total **200 Marks**
2) The question paper of **200 marks** will consist of sets of questions of following subjects.

S.N.	Subject	No. Of Questions	Marks
I)	Marathi	50	50
II)	English	50	50
III)	General Knowledge	25	25
IV)	Aptitude Test	25	25
V)	Computer Application, Computer Science and about knowledge of Computer	50	50

3) The Medium of Examination will be English except Marathi Subject.
4) Syllabus for the Online Written test for the post of Programme Assistant (Computer)

The standard for the Online written test will at par with Graduate Level excluding Marathi & English Subjects. The duration for the examination will be of 2 Hours. Multiple Choice Questions (MCQs) will be asked in the said online exam.

1. मराठी : (५० गुण)

सर्व सामान्य शब्दसंग्रह, वाक्यरचना, व्याकरण, म्हणी व वाक्प्रचार चार यांचा अर्थ आणि उपयोग तसेच उताऱ्यावरील प्रश्नांची उत्तरे. प्रश्नपत्रिकेचा दर्जा उच्च माध्यमिक शालांत परिक्षेच्या (इयत्ता १२ वी) समान राहील.

2. English: (50 Marks)

Common Vocabulary, Sentence Structure, Grammar, Use of Idioms and Phrases & their meaning and comprehension of passage of XIIth Standard level.

3. General Knowledge: (25 Marks)

The subject will include day to day Events, Experiences, Religion, Indian Constitution & Politics, Science & Technology, Social and Industrial Reforms, Literature & Culture, Sports & Games, History & Geography of India Specially Maharashtra Renowned (Great) Personalities and their Contribution, Administration and Rural Development, Indian Economy.

4. Aptitude Test : (25 Marks)

In order to judge the ability and promptness of the candidate in giving correct answers.

5. Computer Subject : (50 Marks)

Questions will be asked on the basis of syllabus of Computer Application, Computer Science and about knowledge of Computer.

KRISHI VIDYAN KENDRA

SYLLABUS FOR THE POST OF

PROGRAMME ASSISTANT

(COMPUTER.)

SYLLABUS FOR THE POST OF PROGRAMME ASSISTANT (COMPUTER.)

Computer Organization and Architecture: Machine instructions and addressing modes, ALU and data-path, CPU control design, Memory interface, I/O interface (Interrupt and DMA mode), Instruction pipelining, Cache and main memory, Secondary storage.

Programming and Data Structures: Programming in C/C++; Functions, Recursion, Parameter passing, Scope, Binding; Abstract data types, Arrays, Stacks, Queues, Linked Lists, Trees, Binary search trees, Binary heaps.

Object Oriented Programming: Features, Advantages and Applications of OOPS. Comparisons between POP and OOP, Introduction to C++, Program structure in C++.
Classes and Objects: Classes and Objects Specifiers, defining data member and member functions, Accessing members.
Functions in C++: Passing objects to and returning objects from functions. Function Overloading and Default argument, Inline function, Friend function. Array of Objects, Pointer to objects, 'this' pointer.
Constructor and Destructor: Types of constructor, Usage of Constructor.
Operator Overloading: Definition, Overloading Unary and Binary operators. Inheritance: Definition, Types of Inheritance, Visibility mode; Types of inheritance with example, Virtual base classes and Abstract base classes.

Operating System: Processes, Threads, Inter-process communication, Concurrency, Synchronization, Deadlock, CPU scheduling, Memory management and virtual memory, File systems, I/O systems, Protection and security.

Databases: ER-model, Relational model (relational algebra, tuple calculus), Database design (integrity constraints, normal forms), Query languages (SQL), File structures (sequential files, indexing, B and B+ trees), Transactions and concurrency control.

Software Analysis and Design: information gathering, requirement and feasibility analysis, data flow diagrams, process specifications, input/output design, process life cycle, planning and managing the project, design, coding, testing, implementation, maintenance.

Computer Networks: ISO/OSI stack, LAN technologies (Ethernet, Token ring), Flow and error control techniques, Routing algorithms, Congestion control, TCP/UDP and sockets, IP(v4), Application layer protocols (icmp, dns, smtp, pop, ftp, http); Basic concepts of hubs, switches, gateways, and routers.

Network security: basic concepts of public key and private key cryptography, digital signature, firewalls.

Web technologies: HTML, XML, basic concepts of client-server computing.

*****