

## National Institute of Open Schooling NOIDA

### 1. Scheme of Examination for the Post of EDP Supervisor to be filled on direct recruitment

|                     |                                      |                     |                  |
|---------------------|--------------------------------------|---------------------|------------------|
| <b>Written test</b> | (i) Paper-I Objective Type Test      | 2 hours duration    | 100 marks        |
|                     | (ii) Paper-II, Descriptive Type Test | 3 hours duration    | 150 marks        |
| <b>Skill Test</b>   | -----                                | 2.30 hours duration | 100 marks        |
|                     |                                      | <b>Total</b>        | <b>350 marks</b> |

### 2. Written Test

#### 2.1 Paper-I Objective Type Test

##### Scheme of the Examination:

| Section      | Paper                            | No of Questions (01 Marks each) | Marks      | Time Duration | Minimum Qualifying marks   |
|--------------|----------------------------------|---------------------------------|------------|---------------|--|
| A            | General Awareness                | 25                              | 25         | 2 hours*      | 1. 45% for General & EWS<br>2. 40% for OBC<br>3. 35% for SC/ST/PwD |
| B            | Reasoning Ability                | 25                              | 25         |               |  |
| C            | Mathematical Ability             | 25                              | 25         |               |  |
| D            | Test of Language English / Hindi | 25                              | 25         |               |  |
| <b>Total</b> |                                  | <b>100</b>                      | <b>100</b> |               |  |

\* Time Duration for PWD categories will be as per Government of India's Rules

## 2.2\_\_ Paper-II Descriptive Type Test

### Scheme of the Examination:

| SUBJECT               | NO OF QUESTION | MARKS | Time Duration | Minimum Qualifying marks   |
|-----------------------|----------------|-------|---------------|--|
| Descriptive Type Test | 10-15          | 150   | 3 hours *     | 1. 45% for General & EWS<br>2. 40% for OBC<br>3. 35% for SC/ST/PwD |
| Total                 | 10-15          | 150   |               |  |

\* Time Duration for PWD categories will be as per Government of India's Rules

## 3. Skill Test

| SUBJECT   | MARKS | Duration   | Minimum Qualifying marks  |
|---|-------|------------|---|
| Skill Test (The skill examination based on the syllabus will consist of Objective type (multiple choice) type questions.) | 100   | 2.30 hours | To qualify, the candidate should obtain 50 marks. This will however only be qualifying in nature. |

## 4. Indicative Syllabus for Written Test

### 4.1. Paper-I Objective Type Test

- 4.1.1 Section A:- General Awareness:** Questions will be designed to test the ability of the candidate's General Awareness of the environment and its relevance to the society. The questions will also be designed to test knowledge of the current events and of such matters of everyday observations as may be expected of an educated person. The test will include questions relating to India and Its neighboring countries, especially pertaining to History, Indian Polity & Constitution, Art & Culture, Geography, Economics, General Policy, Science & Scientific

Research, National/International Organizations/Institutions, events etc. and related to the post concerned.

- 4.1.2 Section B:- Reasoning Ability:** The syllabus includes questions of both verbal and non-verbal types. Test may include questions on analogies, similarities, differences, space visualizations, problem solving, analysis, judgment, decision making, visual memory, discrimination, observation, relationship, concepts, arithmetical reasoning, verbal and figure classification, arithmetical number series etc.
- 4.1.3 Section C:- Mathematical ability:** The test will cover Number System including questions on Simplification, Decimals, Fractions, L.C.M., H.C.F., Ratio & Proportion, Percentage, Average, Profit & Loss, Discount, Simple & Compound Interest, Mensuration, Time & Work, Time & Distance, Tables & Graphs, etc.
- 4.1.4 Section D:- Test of Language English/Hindi:** In addition to the testing of candidate's understanding of the English/Hindi Languages, its Vocabulary, Grammar, Sentence Structure, Synonyms, Antonyms and its correct usage etc. would also be tested.

#### **4.2 Paper-II Descriptive Type Test**

Databases and Data Management: MySql, PostgreSQL, MongoDB, Amazon Relational Database Service, NoSQL, cloud computing, graph databases, machine learning, and augmented Data Management

Scripting/Programming Languages, web/mobile development tools: PHP, Python, JavaScript, HTML and CSS, C++, SQL, C#. React Native and Kotlin for mobile app development

Good knowledge of Web App Development Technologies, development of content management system, Utilization of Chatbots, Web Servers, Types of Cloud Computing Services, Infrastructure as a Service. (IaaS), Platform as a Service. (PaaS), Software as a Service. (SaaS), Disaster Relief as a Service (DRaaS), Functions as a Service.

Cloud server technologies: Amazon Web Services (AWS), Microsoft Azure, Google Cloud, Oracle cloud, Amazon Simple Storage Service (Amazon S3)

Cloud computing features: Load balancing, Security and integrity, Privacy in multi-tenancy clouds,

Virtualisation, Data recovery and backup, Data segregation and

recovery, Secure cloud architecture, Cloud cryptography.

Data security technologies: Data classification, Data access policies, Authentication, Access control, Backups & recovery, Encryption, Data masking, Tokenization, Deletions & erasure, Data Loss Prevention, Intrusion Detection System, Intrusion Prevention System, Security Incident and Event Management, Firewall, Antivirus

Cyber Security Technologies: Artificial Intelligence & Deep Learning, Behavioral Analytics, Embedded Hardware Authentication, Blockchain Cybersecurity, Zero-Trust Model

Configuration, maintenance and administration of Active directory, DC, ADC, DNS, DNCP, WSUS, Group policies, shared, workstation/printers, Antivirus. Configure and install various network devices and services (e.g. routers, switches, firewalls, load balancers, VPN, QoS)

Strong understanding and experience of Network protocols/services/technologies like OSI, TCP/IP, UDP, BGP, OSPF, IP Sec, NAT and MPLS.

Procurement through GeM, e-tendering, e-procurement. Working knowledge of the general mobile landscape, architectures, trends and emerging technologies

Rules & Regulations (General Administration)

Knowledge of other computer related works & procedures.

## **5 Indicative Syllabus for Skill Test**

### **5.1 Section-A:- Databases**

(MySQL, PostgreSQL, MongoDB, Amazon Relational Database Service, NoSQL, graph databases, machine learning, and augmented Data Management, FoxPro, Visual FoxPro)

Understanding Database Fundamentals, Structured Query Language Commands, PL/SQL, Data Modeling and Database Design, Creating Database and Transaction Logs, Creating Database Tables and Using Data-types, Retrieving Data with Transact-SQL, Adding, Changing and Deleting Information in Tables, Using Functions, Managing and Using View, Managing and Using Indexes and Keys, Understanding Transactions and Locking, Managing and Using Rules, Constraints, and Defaults, Managing Stored Procedures and Using flow-Control Statements, Creating and Managing Triggers, Understanding Server, Database and Query

Options, Database Programming etc.

- 5.2 Section-B** Scripting/Programming Languages, web/mobile development tools: PHP, Python, JavaScript, HTML and CSS, C++, SQL, C#. React Native and Kotlin for mobile app development

The Components of a program, usage of all keywords, Usage of all reserved words, Data Types, Control Structures, Procedures, Storing Data” Variables and Constants, Statements, Expressions, and Operators, Functions: The Basics, Basic Program Control, Fundamentals of Input and Output, Using Numeric Arrays, Understanding Pointers, Characters and Strings, Structures, Understanding Variable Scope, Advanced Program Control, Working With the Screen, Printer and Keyboard, Pointers: Beyond the Basics, Using Disk Files, Manipulating Strings, Getting More from Functions, Exploring the C Function Library, Working with Memory, Advanced Compiler Use, Object Oriented Programming Fundamentals, Classes, Objects, Methods, Functions, Arrays, Strings, Inheritance, Structures, Templates etc. development of content management system, development of ChatBots, development of ChatBots, development of mobile apps

- 5.3 Section-C (Networks) :** Configuration of LAN, configuring various devices on the Network, Network Trouble Shooting

Cloud server technologies: Amazon Web Services (AWS), Microsoft Azure, Google Cloud, Oracle cloud, Amazon Simple Storage Service (Amazon S3)

Cloud computing features: Load balancing, Security and integrity, Privacy in multi-tenancy clouds,

Virtualisation, Data recovery and backup, Data segregation and recovery, Secure cloud architecture, Cloud cryptography.

Data security technologies: Data classification, Data access policies, Authentication, Access control, Backups & recovery, Encryption, Data masking, Tokenization, Deletions & erasure, Data Loss Prevention, Intrusion Detection System, Intrusion Prevention System, Security Incident and Event Management, Firewall, Antivirus

Cyber Security Technologies: Artificial Intelligence & Deep Learning, Behavioral Analytics, Embedded Hardware Authentication, Blockchain Cybersecurity, Zero-Trust Model

## **6. General Instructions:**

- 6.1** The question paper would be bilingual (English and Hindi) and the applicant will have the option to respond in either of the languages. However, the same medium of languages must be used throughout.

- 6.2** The questions in the written test will be of the level of degree, which is defined as the minimum eligibility for the respective post.
- 6.3** Answer Scripts of Paper-II (Descriptive Test) of a candidate would be evaluated only, if the candidate qualified in Paper-I (Objective test).
- 6.4** There shall be negative marking for wrong answers in Paper-I to the tune of 1/4<sup>th</sup> of marks allocated per question.
- 6.5** Those who qualify in the written test(both paper-I & paper-II) will be eligible to take the Skill Test.
- 6.6** Merits shall be drawn only for candidates who qualify for Paper-I, Paper-II and Skill Test separately.
- 6.7** Final merit shall be drawn on the basis of combined scores of Paper-I and Paper-II.
- 6.8** In the event of tie in scores, the following will be taken in order of preference in deciding the merit.
- a) Marks obtained in Graduation
  - b) Marks obtained in 12th examination.
  - c) Marks obtained in the 10th exam.
  - d) candidates senior in age will be given preference.
  - e) In case all the options above are exhausted, it will be decided by referring to the alphabetical order of the names taking first name into consideration.
- 6.9** Written Examination will be conducted at 5 (five) cities viz. New Delhi/Delhi/NCR, Pune, Chennai, Kolkatta, Patna, Guwahati. However, NIOS may at its discretion change, cancel, reassign, alter any venue / centre or all venues / centre without issuing any reason thereof.