NTDCL APPROVED CONTENT

**JUNIOR ENGINEER (BPS-17)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sr. | Part | Weightage | Passing Marks  (minimum) | Details |
| 1. | **General Ability** | **17%**  (17 Questions) | **40 %**  (7/17) | Pakistan Studies, Islamic Studies, Ethics/Islamic Studies, General Knowledge, Current Affairs |
| 2. | **Subject Ability** | **83%**  (83 Questions) | **50 %**  (42/83) | *(Syllabus details provided below under the respective post/title)* |

## Syllabus of the Subjective PART (as per ACADAMICS & requirement of the post):

|  |  |  |
| --- | --- | --- |
| Sr. | Concept | Weightage / Questions |
| A | **Fundamentals of Electrical Engineering + Electronics** | |
| 1 | Electrical Network | **21** |
| 2 | Linear Control Systems |
| 3 | Signals and Systems |
| 4 | Digital Signal Processing & Applications |
| 5 | Digital Logic Design & Applications |
| 6 | Microprocessor Systems |
| 7 | Engineering Mathematics |
| 8 | Electromagnetic Field Theory |
| 9 | Electronic Devices & Circuits |
| 10 | Integrated Electronic Circuits |
| 11 | Communication Systems |
| 12 | Analog and Digital Communication Systems |
| B | **Power / Power Electronics** | |
| 1 | Power Generation | **62** |
| 2 | Electrical Power Transmission |
| 3 | Power Distribution and Utilization |
| 4 | Power System Analysis |
| 5 | Power System Protection (For Transmission Line & Substations, Protection relays etc.) |
| 6 | Power System Stability & Control |
| 7 | High Voltage Engineering (Power Equipment & Speciﬁcations) |
| 8 | Advanced Electrical Machines |
| 9 | Advanced Electrical Machine Design |
| 10 | Power Electronics |
| 11 | Instrumentation and Measurements |
| 12 | Digital Control Systems |
| 13 | PLC and Industrial Drives |
| 14 | Renewable Energy Systems (e.g., Wind, Solar etc.) |
|  | **Total** | **83** |

**ASSISTANT MANAGER (IT) (BPS-17)**

|  |  |
| --- | --- |
| **Sr.** | **Concepts** |
| 1 | Programming Fundamentals (Variables, Data structures, Control Structures, Exception Handling, Threading, Files, Socket Programming, Server side programming concepts) |
| 2 | Object Oriented Programming (Classes, Objects, Inheritance, Polymorphism, Encapsulation, Abstraction) |
| 3 | Data Communication and Computer Networks (Network Types, Topologies, TCP/OSI Layers, Storage) |
| 4 | Database Systems (Basic Concepts, Keys, Relationships, DDL/DML, Normalization, SQL, Joins) |
| 5 | Operating System Concepts (Basic Concepts, Scheduling Algorithm, Inter process Communication,  Deadlocks, Memory management) |
| 6 | Fundamentals of ERP |