

## Syllabus for the advertised positions (officer level) in National Transmission & Despatch Company Ltd.

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

### Title-wise Syllabus of the Subjective part *(as per requirement of the post):*

#### Junior Engineer (BPS-17) (advertised on 09/05/2021)

- Fundamentals of Electrical Engineering + Electronics
  - Electrical Network
  - Linear Control Systems
  - Signals and Systems
  - Digital Signal Processing & Applications
  - Digital Logic Design & Applications
  - Microprocessor Systems
  - Engineering Mathematics
  - Electromagnetic Field Theory
  - Electronic Devices & Circuits
  - Integrated Electronic Circuits
  - Communication Systems
  - Analog and Digital Communication Systems
- Power / Power Electronics
  - Power Generation
  - Electrical Power Transmission
  - Power Distribution and Utilization
  - Power System Analysis
  - Power System Protection (For Transmission Line & Substations, Protection relays etc.)
  - Power System Stability & Control
  - High Voltage Engineering (Power Equipment & Specifications)
  - Advanced Electrical Machines
  - Advanced Electrical Machine Design
  - Power Electronics
  - Instrumentation and Measurements
  - Digital Control Systems
  - PLC and Industrial Drives
  - Renewable Energy Systems (e.g., Wind, Solar etc.)

\*\*\*\*\*

### Deputy Manager (IT Auditor) (Pay-package)

- Governance
- Audit Process
- Network Technology Basics
- Information Systems Life Cycle
- System Implantation and Operations
- Protecting Information Systems
- Business Continuity and Disaster Recovery
- Penetration Test
- System Compliance

\*\*\*\*\*

### Deputy Manager (Business Intelligence) (Pay-package)

- Data Science
- Extraction, Transformation & Loading
- Data Warehouse & Database management
- Data Mining
- Dashboards & Data Visualization
- Data Mining
- Online Analytical Processing (OLAP)
- Benchmarking
- Decision making techniques
- Star Schema
- Cubes
- Data Marts
- OLTP

\*\*\*\*\*

### Deputy Manager (Database Management) (Pay-package)

- Data Mining
- User Access and Security
- Backup, Recovery & Cloning
- Data Definition Language (DDL)
- Data Manipulation Language (DML)
- Restoration and recovery
- Performance tuning
- Disaster Recovery Setup
- Real time mirroring
- Stored procedures
- Triggers
- Cluster and non-cluster index
- Functional dependency
- Data independence
- Data isolation multiple files and format
- Redundancy

- How do you maintain integrity, disaster recovery plan and archival
- VDL and SDL
- Differentiate between commands delete truncate drop
- DDL, DML and DCL Commands
- Types of keys
- Auditing
- Logging
- Security

\*\*\*\*\*

### Assistant Company Secretary (Pay-package)

- Corporate and Regulatory Laws (Amended till to date)
  - Public Sector Companies (Corporate Governance) Rules 2013
  - Companies Act 2017.
  - SECP Rules and Regulations
  - PPRA Rules 2004.
- Other Skills
  - English Composition
  - MS Office

\*\*\*\*\*

### Deputy Manager (Compliance) (Pay-package)

- Corporate and Regulatory Laws (Amended till to date)
  - Public Sector Companies (Corporate Governance) Rules 2013
  - Companies Act 2017.
  - SECP Rules and Regulations
  - PPRA Rules 2004.
- Other Skills
  - English Composition
  - MS Office

\*\*\*\*\*

### Deputy Manager (Income Tax) (Pay-package)

#### Tax Laws

- Income Tax Ordinance, 2001 Complete Including Especially
  - Definitions
  - Concept of Residence and Non-Resident
  - Public Company
  - Tax on profit on debt
  - Salary taxation including concept of valuation of perquisites (rule 5, 3, &4)
  - Fee for technical services (Sec 5, 6, and 7)
  - Income from business (Sec 20 and 21)
  - Concept of Depreciation (Sec 22 to 23)
  - Concept of Intangibles (Sec24)
  - Concept of records (Sec 174 & Rules 23to 28)
  - Concept of tax credit (Sec65)

- Return of Total Income (Sec 114)
  - Amendment of assessment (Sec 122)
  - Payment of Goods & services (Sec 153)
  - Recovery (Sec 140)
  - Advance tax (Sec 147)
  - Default of tax paid/deducted (Sec 161)
  - Filing of Withholding tax statements (Sec 165)
  - Part VIII Losses (Sec.56-59)
  - Part IX Deductible Allowances (Sec.60)
  - Complete Income Tax Rules, 2002 especially o above related topics.
- Finance Act, 2020.

#### Corporate Laws (Basic understanding)

- Companies Act 2017.
- Corporate Governance rule 2013.
- SECP Act and Rules.

#### Regulatory Laws (Basic Understanding)

- PPRA Rules 2004.

\*\*\*\*\*

### Deputy Manager (Sales Tax) (Pay-package)

#### Tax Laws

- Sales Tax Act, 1990 Complete including especially
  - Definitions
  - Scope of tax (Sec 3)
  - Zero rating (Sec 4)
  - Change of tax (Sec 5)
  - Time of Payment (Sec 6)
  - Determination of tax liability (Sec 7)
  - Tax Credit not allowed (Sec 8)
  - Debit and Credit notes (Sec 9)
  - Refund of input tax
  - Registration (Sec 14)
  - Records (Sec 22)
  - Taxable Invoice (Sec 23)
  - Transactions between associates (Sec 25 AA)
  - Returns (Sec 26)
  - Appeals (Sec 45 B)
  - Appeals to Appellate Tribunal (Sec 46)
  - Reference to the High Court (Sec 47)
  - ADR (Sec 47A)
  - Recovery ... (Sec 48)
- Sales Tax Rules 2006.
- Finance Act, 2020.

#### Corporate Laws (Basic understanding)

- Companies Act 2017.
- Corporate Governance rule 2013.

#### Regulatory Laws (Basic Understanding)

- PPRA Rules 2004.

#### Provincial Tax Laws / Acts (Basic understanding)

- The Punjab Sales Tax on Services Act, 2012.
- Sindh Sales Tax on Services Act, 2011.
- Khyber Pakhtunkhwa Sales Tax on Services Rules / Regulations, 2013.
- Balochistan Sales Tax on Services Act 2015.
- Islamabad Capital Territory Tax on Services Ordinance 2001.

\*\*\*\*\*

#### Deputy Manager (Corporate Accounts) (BPS-18)

- Companies Act 2017.
- IFRS Introduction plus processes of (IAS 1, IAS 7, IFRS 16)
- Preparation and Presentation of Financial Statements
- Cost Volume Profit Analysis, Capital Expenditure Planning and Evaluation
- Financial Analysis including Ratios, Horizontal Analysis, Vertical Analysis
- Budgeting Complete and Differential Analysis
- Nature and Functions of Management
- Financial Management Decisions, Risk Management
- PPRA Rules 2004.

\*\*\*\*\*

#### Deputy Manager (Security) (BPS-18)

##### Staff Duties / Office Management

- Basic Functions of Staff.
- Essential elements of written staff work.
- Security classification of documents.

##### Security

- Various Security Measures, aspects and Procedures.
- Emergency Evacuation Plan.
- Security of Person. Officials, Documents and Information.
- Handling & maintenance of Weapons.
- Various SOPs on security matters.
- Handling of various contingencies i.e., Strike, Mobs, Terrorist Threat/ attack, protest by employees etc.
- Voice procedure & communication security.
- Security of Installations / Transmission Lines.
- Points to be considered for security check of installations and security clearance of Security Staff.
- Investigation and interrogation.
- Suggested points for Security Standing Orders.
- Types of Security Equipment.

## Security of Foreigners

- Latest SOPs of Govt; of Pakistan.
- Security during movement of Foreigners.
- Security of Residential Areas.
- Coordination with Law Enforcement Agencies required during movement.
- Reporting channels of incidents / violation of SOPs.
- Regular feedback to NACTA (National Counter Terrorism Authority), Ministry of Interior (Govt; of Pakistan).
- Security / protection of VVIP / VIPs.

## Fire Fighting

- New trend in Fire Fighting techniques & latest equipment used in Fire.
- General information and knowledge about Fire Fighting.
- Safety of equipment used in fire services.
- Tasks of various officials of Fire Fighting staff and actions to be taken on put break of fire by each official.
- Name of various Rescue Organizations.

\*\*\*\*\*

## Assistant Manager (HR) (BPS-17)

- Principles of Management
- Fundamentals of Business Management
- Business Communication
- Public Administration & Management
- Human Resource Management
- Training & Development
- Recruitment & Selection
- Compensation & Performance Management
- Strategic Human Resource Management
- Change Management
- Organizational Development
- Corporate Governance
- Organizational Behaviour
- Industrial Relation
- Labour Laws
- Leadership & Change Management
- IT in Business (Computer Applications & ERP)
- Fundamentals of Economics

\*\*\*\*\*

## Assistant Manager (Corporate Accounts) (BPS-17)

- Companies Act 2017.
- IFRS Introduction
- Preparation and Presentation of Financial Statements
- Cost Volume Profit Analysis
- Financial Analysis including Ratios, Horizontal and Vertical Analysis
- Nature and Functions of Management
- PPRA Rules 2004.

\*\*\*\*\*

### Junior Engineer (Civil) (BPS-17)

- Civil Engineering Materials
- Engineering Drawing
- Foundation Design & Engineering
- Structural Analysis
- Plain & Reinforced Concrete
- Construction Engineering
- Construction Management
- Transportation Planning & Engineering
- Surveying & Levelling
- Quantity Surveying & Estimation
- Soil Mechanics
- Fluid Mechanics

\*\*\*\*\*

### Assistant Manager (Desktop / LAN Support) (Pay-package)

- Data Communication and Computer Networks
- Database Systems
- Internet Architecture and Protocol
- Microsoft Windows setup
- Windows Installation
- Desktop/Laptop Troubleshooting
- Default Gateway
- Inter VLAN Routing
- VLSM/ Classless IP/ Subnetting/ Supernetting
- LAN Topologies
- Operating Systems
- Switching Protocols
- VPN
- Active Directory / Domain Controller
- Active Directory Setup
- New Desktop / laptop Setup

\*\*\*\*\*

### Assistant Manager (Database Administrator) (Pay-package)

- Extraction, Transformation & Loading
- Data Warehouse & Database management
- Data Mining
- Dashboards & Data Visualization
- Online Analytical Processing (OLAP)
- Database Access
- Data Migration

\*\*\*\*\*

### Assistant Manager (Server Engineer- Security) (Pay-package)

- VMware management
- Multi-site windows environment along with hardware and software configuration
- Azure Solutions Architect Expert VMware
- Network Security and infrastructure
- Management of server migration
- Server automation process (by scripts or via third-party solutions)
- Linux Server Setup
- Windows Server Setup
- Linux/Windows Server Troubleshooting
- Best defenses against brute force login attack
- Attacks Man in the middle attack/ DDOS
- IP SEC Phases and its precedence
- Difference between IKE Version 1 and IKE Version 2
- L2TP vs IPsec

\*\*\*\*\*

### Assistant Manager (Server Engineer -Systems) (Pay-package)

- VMware management
- Multi-site windows environment along with hardware and software configuration
- Azure Solutions Architect Expert VMware
- Network Security and infrastructure
- Management of server migration
- Server automation process (by scripts or via third-party solutions)
- Server automation process (by scripts or via third-party solutions)
- Linux Server Setup
- Windows Server Setup
- Vagrant/ Ansible Opensource and proprietary
- Ports HTTPS SSL etc.
- securing your webserver
- Port forwarding
- SAN
- Anti-Hacking Techniques
- Granting File permission
- RAID

\*\*\*\*\*

### Assistant Manager (Release and Deployment) (Pay-package)

- Release Definition
- Infrastructure release unit
- Application and software release unit
- Training and manuals release unit
- Rolling application release unit plan
- Release and deployment planning
- Release build and test



- Deployment
- Service validation and testing
- Build Scripts
- Software Development concepts

\*\*\*\*\*

### Assistant Manager (Software Development & Ops.) (Pay-package)

- Programming Fundamentals
- Object Oriented Programming
- Software Development Methodologies
- Agile Software Development
- SQL Development
- Database Systems
- Database Design & Management
- Enterprise Application Development
- Artificial Intelligence
- Internet Architecture and Protocol
- Execution of full software development life cycle (SDLC)
- API
- Multithreading/Multitasking
- Classes and objects
- Exception Handling
- Connection Pooling

\*\*\*\*\*

### Junior Executives (Data Support Team) (Pay-package)

- Programming Fundamentals
- Compilation of data /data handling/management
- MS Office (Word / Excel / PowerPoint)
  - VLOOKUP
  - Pivot
  - IF statements
  - Conditional formatting
  - Data reporting
- Report generation

\*\*\*\*\*

### IT Officer (BPS-16)

- IT Operations
- Computer Networks
- LAN, WLAN installation, configuration, troubleshooting
- computer maintenance,
- server administration
- Printer Setup / Troubleshooting
- Windows Installation
- Network Troubleshooting
- Conducting Video Conference Meeting

➤ Active Directory setup

\*\*\*\*\*