

NEPAL TELECOM

Nepal Doorsanchar Company Ltd.

Syllabus

Syllabus for Free Competition written examination for Assistant Engineer (Telecom)
(Level 6)

Full Marks: 100

Pass Marks: 40

Time: 2 hours

Part I

(General Module for Outside Plant, Transmission, Switching, Computer, Mechanical and Electrical group)

Types of Questions	No. of Questions	Marks	Total	Remarks
Objective	30	1	30	1/4 marks will be deducted for each incorrect answer
Short-Answer Questions	10	4	40	
Long-Answer Questions	3	10	30	

Use of non-programmable calculator is permitted in the examination hall.

- 1. Overview of Telecommunication Services and Networks (Weightage: 15-25%)**
Various telecom Services of Nepal Telecom, Value added services, Technologies adopted by Nepal Telecom: PSTN, GSM and CDMA Mobile services, VSAT, Intelligent Network, Analog and Digital communications, Sampling, Quantization, Encoding, Multiplexing, Analog and Digital Modulation and transmission.
- 2. Key Performance Indicators of Telecom Administration (Weightage: 5-15%)**
Supply / Demand Situation, Quality of Service, Network Performance Indicators: Line faults / 100 subs/ month, Mean time to repair, Mean Time between Failure (MTBF), Customer Satisfaction, Breakdowns, and Productivity Indicators: Revenue / Line, Revenue / Employee, Employee / 1000 Lines
- 3. Mathematics and Physics (Weightage: 10-20%)**
Unitary Methods, Unit conversion (MKS to FPS, Multiplying indexes from Pico to Terra) and Cosine, Sine, Tangent, Area, Parabola, Circle, Sphere, Volume, Diameter, 2 D coordinate geometry, equation of straight line.
Reflection and refraction of light, Critical angle, Diffraction, Polarization, Spectrum of light, I & II law of thermodynamics.
- 4. Electricity (Weightage: 10-20%)**
Primary sources of power for telecom installation: Mains, Solar, Diesel Power Plants, Portable Gen-sets (Definitions & characteristics), Characteristics of Lead acid cells: Cell voltages, Specific gravity, capacity at 3, 10, 20 Hour discharge rates, Rectifier and charge controllers, Full/half wave rectifiers, ripple, UPS, Surge protectors, Basic components of air conditioning system, Power supply system in Telecom Network (general layout only),

Electrical measurements: Ammeter, clamp meter, wattmeter, Wheatstone bridge, Earth resistance meter.

5. **Earthing and Protection** (Weightage:5-15%)
Purpose, Type of Earthing (Radial, plates, Rings & Mesh), Typical Earth Resistance for exchanges, Transmission equipments & line plants, Typical Earth Resistivity of soils, Earthing Materials (conductors, Charcoal sawdust, salt & other chemical agents), Earth resistance measurements, Electromagnetic induction into communication lines and equipment, surges, Industrial Radiation, Electrical Hazards, Arrestors, Lighting Protection Arrestors.
6. **Computer Basic** (Weightage:5-15%)
Computer Architecture, CPU, IO devices (Key board, Mouse, Monitors, Prints), Storage devices: Floppies, Hard Disk, Disk Drives, MS DOS Basic: Internal & External Commands, Batch Files, File Management, MS-Window, Excel, MS word, email and Internet.
7. **Management Concepts & Finance** (Weightage 3 to 7%)
Nepal Telecom's organization structure, Vision, Mission, Goal, Objectives, MIS and Annual report of NT, Tariff Structure of NT, Communication skill, Customer care, Trial balance, balance sheet, budgeting
८. **ऐन, विनियमावली, नीती नियम** (Weightage:10-20%)
नेपाल दुरसंचार कम्पनी लिमिटेडको कर्मचारी विनियमावली २०६१ अन्तरगत परिच्छेद ६ विदा, परिच्छेद ८ आचरण तथा अनुशासन, परिच्छेद १० सजाय र पुनरावेदन ।
नेपाल दुरसंचार कम्पनी लिमिटेडको आर्थिक विनियमावली २०६१ अन्तरगत परिच्छेद २ वार्षिक कार्यक्रम र बजेट, परिच्छेद ३ कम्पनीको सम्पत्तिको जिम्मा, त्यसको लगत, संरक्षण र बरबूभारथ, परिच्छेद ५ खरीद र प्राप्ति, परिच्छेद ६ बोलपत्र सम्बन्धि कार्य विधि ।
कम्पनी ऐन २०५३ अन्तरगत परिच्छेद २ कम्पनीको स्थापना, परिच्छेद ६ संचालक समिति ।
दुरसंचार ऐन २०५३ अन्तरगत परिच्छेद ७ दुरसंचार लाइनको जडान र रेखदेख, परिच्छेद ८ सेवा शुल्क निर्धारण तथा असूली, परिच्छेद ११ विविध- दफा ४९ रेडियो फ्रिक्वेन्सि नीति निर्धारण सम्बन्धी व्यवस्था ।