

NATIONAL REMOTE SENSING CENTRE  
**ADVERTISEMENT NO.NRSC/RMT/3/2017 DATED 20.05.2017**

**Name of the Post : Technician – B (Electronic Mechanic)**

**Post Code : TB 1**

**SYLLABUS – WRITTEN TEST**

Type of Examination	:	Objective Type (Multiple Choice Questions)
No. of Questions	:	80 Questions
Apportionment of marks	:	Each Question carries one mark.
Duration of Examination	:	02 Hours

**Qualification Requirement : ITI/NTC/NAC in Electronic Mechanic Trade.**

*(Examination will broadly comprise of below mentioned topics as covered in ITI/NTC/NAC in Electronic Mechanic Trade.)*

- 1 Basics of AC and Electrical Cables
- 2 Battery /Cells
- 3 Passive Components
- 4 Transformers
- 5 AC & DC Measurements
- 6 Rectifiers and IC Regulators:
- 7 Computer Hardware, OS, MS office, Networking
- 8 Transistor, Amplifiers
- 9 Power Electronics Components
- 10 Basic Gates and combinational circuits
- 11 Electronic Cables and Connectors :
- 12 Communication Electronics :
- 13 Microcontrollers (8051) , Sensors ,Transducers and Applications :
- 14 Fibre Optic Communication :
- 15 UPS and SMPS :

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**Syllabus for Skill Test**

1. Identification and usage of different tools
2. Identify different components and find value using colour code. Symbolic representation of each component. Usage of multi meter and measure different parameters.
3. Calculate series and parallel combination of R, L, C and resonance frequency of RLC circuit.
4. Solder & de soldering given components on a PCB. Explain methods of de soldering. explain Solder lead combination and uses of flux. Explain PCB layers, types, rework of SMT, PTH, damaged tracks & Pads, explain need of solder mask.
5. Construct HW, FW and Bridge rectifier with filter ckt and explain functionality. Monitor voltages AC and DC voltages at different points.

6. Identify different components CPU, Memory, SMPS, IO slots and types, serial port, parallel port, USB, CMOS battery etc in a PC and explain the functionality.
7. Identify different transistors and ICs and explain the function.
8. Identify different measuring instruments and explain the usage& demonstrate.

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**Name of the Post: Technician – B (Electrician)**

**Post Code: TB 2**

**SYLLABUS – WRITTEN TEST**

Type of Examination	:	Objective Type (Multiple Choice Questions)
No. of Questions	:	80 Questions
Apportionment of marks	:	Each Question carries one mark
Duration of Examination	:	02 Hours

**Qualification Requirement: ITI/NTC/NAC in Electrician Trade**

*(Examination will broadly comprise of below mentioned topics as covered in ITI/NTC/NAC in Electrician trade)*

1. Fundamentals of electricity
2. Ohm's Law, Kirchhoff's Laws
3. Chemical effect of electric current
4. Inverter, Battery Charger, UPS fundamentals
5. Electro magnetism
6. D.C. Machines
7. Insulating materials
8. Different types of Wiring systems (domestic and industrial), different types of earthing techniques
9. Alternating current fundamentals
10. Transformers
11. Generation, transmission and distribution of electricity
12. Synchronous motors
13. Induction motors
14. AC and DC Machine winding
15. Electrical measurements and Measuring Instruments
16. Illumination and lighting fundamentals
17. Protective devices – Fuse, Relays, MCBs, MCCBs, ELMCBs
18. Basic electronics, semi - conductors, Digital Electronics
19. Solving simple electrical problem, basic electrical formulae
20. Reading of circuit diagrams / single line diagrams / Block diagrams / Recording basic electrical parameters/ Identification of basic electrical symbols
21. Electrical safety - Causes for Electric Shock and protection
22. Fire Safety - types of fire prevention and fire extinguishing techniques

**Syllabus for Skill Test**

1. Identification and Handling of tools & making electrical wire and cable joints
2. Use of measuring Instruments – Using Multimeter/AVO meter and Tongue/Clamp-On meter, Series / Parallel measurements
3. Different internal wiring practices – drawing and practice

4. Fuses, Relays & circuit breakers
5. Illumination – Lighting schemes, identification of different light fittings
6. Cells & batteries – Series and parallel combinations, measurements and calculations
7. EARTHING – drawings, measurement of soil resistivity
8. Identification/use of Fire extinguishers for different applications
9. Identification of protective devices