

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

Name of the Post : Technical Assistant

Post Code : TA2

SYLLABUS - WRITTEN TEST

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| 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 : First Class Diploma in Electrical & Electronics Engineering

(Examination will broadly comprise of below mentioned topics as covered in Diploma courses.)

1. MATHEMATICS – Matrices, Trigonometry, Complex Numbers, Analytical Geometry, Differentiation and its Applications, Integration and its Applications, Differential Equations
2. PHYSICS - Units and dimensions, Elements of vectors, Kinematics and Friction, Work, Power and Energy, Simple harmonic motion and Sound, Heat and Thermodynamics, Modern physics
3. Basics of Computer Science
4. Basic Electrical Engineering
5. D.C. Machines, Batteries & Measuring Instruments
6. A.C. Circuits and Transformers:
7. A.C. Machines
8. Power System Generation & Protection
9. Transmission and Distribution
10. Electric Traction
11. Electrical Estimation
12. Basic Electronics and Digital Electronics
13. Power Electronics and Micro Controller

Syllabus for Skill Test

1. Identification of components along with their value.
2. Identification of different tools and explain their usage.
3. Calculate & Measure series and parallel combinations of R, L and C
4. Starters- Star Delta conversions, star-delta starters, Direct online (DOL), connections, demonstration and explain their applications
5. Measurement of power, Load current and Energy calculation of given motor circuit and demonstrate.
6. Explain different types of transformer protective relays and their operation.
7. Power factor correction - PF capacitors, calculation for improvement of PF
8. Series Parallel connections of batteries- Explain the configuration of the given batteries. Measure and calculate Voltage, capacity of given configuration.
9. Wiring estimation and calculations
10. Wiring Lamp circuits
11. Construction of motor circuits with necessary protections and demonstrate.
12. Draw the circuit of HW/FW/Bridge rectifier circuits with Zener regulator and filter circuit.
13. Identify different types of transformers explain their usage
14. Microcontroller (8051) basic programming
15. Interfacing microcontroller with peripheral devices like LCD display

16. Building gates, FFs and counters. Knowledge about different discrete ICs.
17. Calculate Thevenin's equivalent and Norton's equivalent of the given circuit.
18. Calculate resonance frequency and Q factor of the given series and parallel resonant circuits.
19. Identify and usage of different test equipments like Multi meter, power scope, insulation tester earth tester etc.