

DMRC
JE-ELECTRICAL
DETAILED SYLLABUS

Basic Electrical Engineering /Network**Analysis:-**

Electrons dynamics, Basics of electricity, KCL, KVL, Network Theorem, Fundamental of AC, Resonance, three-phase system, two-port network, Laplace Transform, charging & discharging of capacitor & Inductor (Transients), Electrostatics, Magnetic Circuits.

Electrical Machines:- 1- ϕ Transformers, auto transformer, three-phase transformer connections, Scott connection, open delta, parallel operation of transformer, 3- ϕ Induction motor, 1- ϕ Induction motor, Synchronous machines (Motor, Generators), DC Machines (Motor, Generator), special purpose motor & their application.

Power Electronics:- Power diode, Power Transistor IGBT, SCR Family, Thyristor, SCR Triggering, Series & Parallel operation of SCR, Thyristor Commutation, Phase controlled rectifier, Inverter, chopper, cycloconverter, Drives.

Power System:- Generation:- Power plant, (Conventional & Non Conventional) economics of power generation, Power factor Improvement.

Transmission & Distribution:- Mechanical design of Transmission line, electrical design of transmission line, performance of Transmission lines, underground cables, distribution system.

Switchgear & Protection:- PU system, Faults analysis, Relays, Protection of different power system components.

Measurement & Instrumentation:- Error Analysis, Measurement of R,L &C, PMMC, MI, Rectifier Type Instrument, electro dynamometer, Thermocouple Instruments, Electrostatic voltmeter, Transducer.

Digital electronics:- Boolean algebra, Number System, Logic Gates, Signed magnitude representation, Combinational circuit, Sequential circuit, Logic families, ADC/DAC

Analog Electronics:- Semiconductor physics, diode, Rectifier, BJT, FET, MOSFET, Amplifier, Op-Amp.

Microprocessor:- Introduction, Pin diagram, Interrupt.

Control system:- Only one question comes from control system so no extra effort for control system.

Miscellaneous:- UEET, Induction heating, welding, E&C. (2 questions from this sections).

APTITUDE SYLLABUS

1. Number System
 - ❖ H.C.F. & L.C.M
 - ❖ Problem with numbers
2. Time & Work
3. Boats & Streams
4. Percentage
5. Simplification
6. Profit & Loss
7. Simple & Compound Interest
8. Speed Distance
 - * Train Problem
9. Age Problem
10. Geometry
 - ❖ Triangle, Rectangle, Square Normally area
11. Clocks, Calendars.

REASONING SYLLABUS

1. Series Completion
 - * Alphabetically, Numbers
2. Blood Relation
3. Coding & Decoding
4. Puzzle
5. Seating arrangements
6. Direction & Distance
7. Venn-Diagram
8. Finding Missing Number

General Knowledge

1. Current Affairs

2. International Organization

- ❖ Latest meeting ,President of organization and headquarters

3. Budgets

4. Sports

5. Awards

6. Prime minister of India

- ❖ Latest foreign visit

7. Indian Government latest Yojna

8. 26th Jan Function (10 countries representative name)

9. Basic Geography

10. Biology

11. Environmental Issues

12. Basic History.

PREP.BY:

Mr. R.K.RAMAN

