

Syllabus for Selection to the Post of JE (S) in Signal 20% UPEE, 2018-19

Signalling & Interlocking

- a) Principles of Interlocking as per SEM
- b) Preparation of signalling plans and numbering MACLS, PI Lay out.
- c) Preparation of inter cabin slotting
- d) Signal control circuits for MACLS including PI British type both route setting and non-route setting

Electrical Signalling

- a) Relays of various types used in SC Railway.
- b) DC track circuits & their components, initial adjustments, insulating of points & cross overs, etc. Preparation of track bonding diagrams for different lay outs (Series, parallel, series parallel)
- c) Electric point machines, universal and Siemens type and their working control and detection circuits, various checks to be carried out and measurements to be taken during maintenance.
- d) Colour light signalling, cutting in arrangement, Red lamp protection, Various signalling lamps in signalling
- e) Automatic signalling & basic principles and circuitry
- f) Electric key transmitter and its wiring.
- g) Cables - various cables used in signalling, parameters of cable, length of parallelism in RE area,
- h) Earthing: Various types of earths used in signalling, measurements of earth value, maintenance free earth & ring earth.
- i) Various transformers, rectifiers DC-DC converters used in signalling.
- j) IPS - Components of various modules for way side stations - Periodical checkings to be done.
- k) Secondary cells (LMLA) initial charging, deciding of capacity of charger based on cells, Telecom application chargers used in signalling
- l) Solar photo type cells and solar panels.
- m) Generators.
- n) Axle counters : Universal working block diagram, various cards available in the evaluator and their discription and function of each card - Adjustment & readings

Block Signalling

- a) Push type button, tokenless block instruments, PTJ type, Nomenclature of relays, working principles of various codes transmitted and received
- b) Single line Daldo type instrument, frequencies used in transmitting and receiving codes, general working.
- c) Double line block instrument, lock and block circuit and PXX circuit
- d) 'Des & Douts', Automatic block signalling, circuits and working principle

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4) Signalling in General:-

- a) Location of signals various types of signals and their uses.
- b) Working of siding taking off from loopline, working of siding taking off from mid block section.
- c) Classification of LC gates, rules for working of trolley, duties of maintenance & signal supervisors,
- d) Foot plate inspections & Joint foot plate inspections.
- e) Signal failure investigations, reports and up-keep of data
- f) Procedure in connection with opening of new works.

5) Stores:-

- a) Imprest stores
- b) Consumable stores
- c) Dead stock & T&P maintenance & DMTR.
- d) Written off stores and custody.
- e) Stock verification & theft of stores.

6) Establishment Matters:-

- a) Work man compensation act
- b) HOER
- c) DAR major penalties & Minor penalties.
- d) Various types of leave rules, Pass rules and other welfare measures.

7) Official Language (Raja Basha)

- a) a, b & c regions, various incentives issued for implementation of Raj Basha
- b) Equivalent words in Raj Basha for certain words in English.
- c) Usage of Raj Basha in official correspondence.

8) Modern Railway Signalling:

- a) Electronic Intellocking - various types used in SC Rly & their salient features.
- b) IPS,
- c) Data loggers
- d) BPAC & SS-DAK
- f) LED signals

9) G&SR:

- a) Absolute block working, Automatic block working, Signals in generation, Location of various signals
- b) Working of trains during total failure of communication
- c) Standard schedule of dimensions -2004
- d) Infringements - Maintenance of Infringements records.

msf

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