

**Central Public Works Department
Department Examination for
Assistant Executive Engineer (E)
Electrical Engineering Paper- II
(With Books)**

OCTOBER – 2020

Time: 3 Hours

Maximum Marks: 100

Instructions to the candidates

- 1) Attempt any five questions. All questions carry equal marks.
- 2) Make your own assumptions wherever required & indicate them clearly in answer sheet.
- 3) For preparation of BOQ, for DSR item mention only item number/code instead of entire item.
- 4) In BOQ, major items of estimate are expected to be written.
- 5) Book like DSR, AOR are allowed. No specification books are allowed.

Q1. (a) Design fire fighting (water based) system for above campus. [Refer drawing]

(b) Draw the plan fire fighting room with equipment details.

(c) Draw system layout of overall campus.

(d) Prepare BOQ.

Q2. (a) Design electric substation for above campus. [Refer drawing]

(b) Draw detailed layout of system.

(c) Draw layout of substation equipment placement.

(d) Prepare BOQ for electric substation including distribution system.

[Assume suitable electric load of each building]

Q3. Design suitable energy efficient VRF AC system for Admin block of G+3 floors. Each floor has 10 Rooms [20x30mtrs.], 2 conference halls [30x40mtrs.], one director cabin [15x10mtrs.], at 1st floor, one Registrar cabin [12x 10mtrs.].

Prepare BOQ of system.

Q4. Design street lighting scheme including compound lighting scheme for above campus.

Explain parameters of design & prepare BOQ. Draw layout of campus with street light.

Q5. Design lift system for Boys hostel, of above campus indicating no. of lifts, speed, capacity

Also design pressurization of lift shaft & lobby.

Q6. (a) Suggest AC system for each building of the campus with reasons.

(b) Design solar power generation system.

(c) Design solar water heater system for hostel.

Q7. Prepare inventory, BOQ for type III quarters mentioned in the drawing. Wiring diagram, conduit layout for 1 No. above quarter may also be furnished.