



**SYLLABI FOR DEPARTMENTAL EXAMINATION FOR
TRAINED SA/DIPLOMA SA/UNTRAINED SA
UNDER PUBLIC WORKS DEPARTMENT
(ENGINEERING PAPER)**

Duration – 3 hours

**PART 'A' (BUILDING WORKS)
(50 Marks)**

1. Drawing & measuring equipments. *(5 Marks)*
 2. Preparing Plan, elevation and sections. *(3 Marks)*
 3. Common building materials, their characteristics and use of bricks , iron and steel , lime, cements, timbers, asbestos, asphalt etc lime cements and surkhi mortars, lime and cement concrete, plain and reinforced concrete, safe bearing capacity for ordinary soils. *(2 Marks)*
 4. Basic principles of RCC structures arches. *(5 Marks)*
 5. Types of foundation and various types of soils. *(3 Marks)*
 6. Doors, windows, lintels, relieving jack arches. *(3 Marks)*
 7. Interpretation of drawings(arch & structural) *(4 Marks)*
 8. Various Steel sections. *(3 Marks)*
 9. Roofs and roof trusses, lean to roofs, King post and Queen post trusses, Composite steel trusses. *(3 Marks)*
 10. Roof covering and fixing country and factory tiles roofing, corrugated GI and asbestos sheet roofing, measure to ensure water tight joint in ridges, angles and valleys. *(2 Marks)*
 11. Schedule of rules and analysis of rates. *(5 Marks)*
 12. Estimating and costing. *(7 Marks)*
 13. Basic water supply and sanitary works. *(5 Marks)*
- N.B. Group 'A' : 3(three) questions will have to be answered by the examinees.

PART 'B' (SURVEY, ROAD WORKS ETC)

(50 Marks)

1. Definition, use and adjustment of survey instruments. *(5 Marks)*
2. Survey of road alignment, selection of bridge site. *(7 Marks)*
3. Road Geometry and various classes of roads. *(5 Marks)*
4. Elementary soil mechanic, Strength of soil, important Laboratory and Field Tests. *(8 Marks)*
5. Various types of pavement works including construction procedure. *(10 Marks)*
6. Drainage works. *(5 Marks)*
7. Analysis of rates for road works, RCC works, building works, retaining wall and culverts, simple mensuration problem. *(10 Marks)*
