GROUP-7

1) General awareness, Reasoning, Mathematics, Science, History including Haryana related history, current affairs, literature, Geography, Civics, Environment, Culture etc.- (**Weightage 20%)**

2) Computer terminology, Fundamentals, word software, excel software, Power point, internet, web browsing, Communication, emails, downloading and uploading data on websites etc**. - (Weightage 10%)**

3) Subject related syllabus- (Weightage 70%)

A) FLUID MECHANICS

1. Introduction: 2. Properties of Fluids 3. Hydrostatic Pressure: 4. Measurement of Pressure:

5. Fundamentals of Fluid Flow:6. Flow Measurements 7. Flow through Pipes:8. Flow through open channels:9. Hydraulic Pumps

B) STRUCTURAL MECHANICS

1. Properties of Materials2. Simple Stresses and Strains

3. Shear Force and Bending Moment:4. Moment of Inertia 5. Bending Stresses in Beams:

6. Combined Direct and Bending Stresses7. Shear Stresses in Beams 8. Slope and Deflection: 9. Columns:

10. Analysis of Trusses:

C) SURVEYING

1. Introduction:2. Chain surveying3. Compass surveying:4. Levelling:5. Plane Table Surveying 6. Contouring: 7. Theodolite Surveying: 8. Tacho-metric surveying 9. Curves:

10. Introduction to the use of Modern Surveying equipment and techniques 11. Minor Instruments

D) CONSTRUCTION MATERIALS

1. Building Stones:2. Bricks and Tiles: 3. Cement: 4. Lime 5. Timber and Wood Based Products:

6. Paints and Varnishes:7. Metals: 8. Miscellaneous Materials:

E) BUILDING CONSTRUCTION

1. Introduction: 2. Foundations: 3. Walls: 4. Masonry 5. Arches and Lintels: 6. Doors, Windows and Ventilators:7. Damp Proofing and Water Proofing 8. Floors 9. Roofs 10. Stairs

12. Anti-Termite Measures (As per IS 6313 –I – III) 13. Building Planning 14. Building Services

15. Elementary idea of interior decoration, wall panelling, false ceiling, flooring etc

F) CONCRETE TECHNOLOGY

Introduction:2. Ingredients of Concrete:3. Water Cement Ratio:4. Workability: 5. Properties of Concrete:

6. Proportioning for Normal Concrete: 7. Introduction to Admixtures (chemicals and minerals) for improving performance of concrete 8. Special Concretes9. Concreting Operations:

10. Importance and methods of non-destructive tests

G) WATER SUPPLY AND WASTE WATER ENGINEERING

a) WATER SUPPLY

1. Introduction 2. Quantity of Water 3. Quality of Water4. Water Treatment (brief introduction)

5. Conveyance of Water 6. Laying out Pipes7. Building Water Supply

b) WASTE WATER ENGINEERING

8. Introduction9. Sewerage System 10. Laying and Construction of Sewers: 11 Sewage characteristics:

12. Natural Methods of Sewerage Disposal 13. Sewage Treatment 14. Building Drainage

H) IRRIGATION ENGINEERING

1. Introduction:2. Water Requirement of Crops 3. Hydrological Cycle Catchment Area and Run-off

4. Methods of Irrigation5. Canals 6. Tube Well Irrigation 7. Dams 8. Canal Head Works and Regulatory Works 9. Cross Drainage Works 10. Definitions Hydraulic Structures11. River Training Works

12. Water Logging and Drainage and Ground Water Re-charge

I) HIGHWAY ENGINEERING

1. Introduction 2. Road Geometrics 3. Highway Surveys and Plan 4. Road Materials 5. Road Pavements

6. Hill Roads: 7. Road Drainage: 8. Road Maintenance: 9. Road Construction Equipment:

J) SOIL AND FOUNDATION ENGINEERING

1. Introduction: 2. Physical Properties of Soils: 3. Classification and Identification of Soils 4. Flow of Water Through Soils: 5. Effective Stress: (Concept only) 6. Deformation of Soils 7. Shear Strength Characteristics of Soils: 8. Compaction: 9. Soil Exploration: 10 Bearing Capacity of soil 11. Foundation Engineering:

K) ENVIRONMENTAL EDUCATION

1. Definition, Scope and Importance of Environmental Education

2. Basics of ecology, biodiversity, eco system and sustainable development

3. Sources of pollution - natural and manmade, causes, effects and control measures of pollution (air, water, noise, soil, radioactive and nuclear) and their units of measurement

4. Solid waste management – Causes, effects and control measures of urban and industrial waste

5. Mining and deforestation – Causes, effects and control measures

6. Environmental Legislation - Water (prevention and control of pollution) Act 1974, Air (Prevention and Control of Pollution) Act 1981 and Environmental Protection Act 1986, Role and Function of State Pollution Control Board, Environmental Impact Assessment (EIA)

7. Role of Non-conventional Energy Resources (Solar Energy, Wind Energy, Bio Energy, Hydro Energy)

8. Current Issues in Environmental Pollution – Global Warming, Green House Effect, Depletion of Ozone Layer, Recycling of Material, Environmental Ethics, Rain Water Harvesting, Maintenance of Groundwater, Acid Rain, Carbon Credits.

L) EARTHQUAKE RESISTANT BUILDING CONSTRUCTION

1.Elements of Engineering Seismology

2. Seismic Behaviour of Traditionally-Built Constructions of India

3. Special construction method, tips and precautions to be observed while planning, designing and construction of earthquake resistant building.

4. Introduction to IS: 4326, IS: 13828, IS: 1893(Part 1), 154326 and IS: 13920 (latest edition)

5. Seismic Provision of Strengthening and Retrofitting Measures for Traditionally- Built Constructions, Brick and RCC Structures

6. Provision of reinforcement detailing in masonry and RC constructions

7. Disaster Management: Disaster rescue, psychology of rescue, rescue workers, rescue plan, rescue by steps, rescue equipment, safety in rescue operations, debris clearance and causality management.

M) REPAIR AND MAINTENANCE OF BUILDINGS

1. Need for Maintenance

2. Agencies Causing Deterioration (Sources, Causes, Effects)

3. Investigation and Diagnosis of Defects

4. Defects and their root causes

5. Materials for Repair, maintenance and protection

6. Remedial Measures for Building Defects

Important Note: The Weightage as mentioned against the syllabus is tentative & may vary.