



**SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY**

**THIRUVANANTHAPURAM—695 011, INDIA.**

(An Institute of National Importance under Govt. of India)

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P&A.I/X/68/Syllabus/VOP/SCTIMST/2014

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### **NOTICE**

The syllabus for written test for selection to the post of **Junior Engineer (Civil)** as approved by the Director is notified for the information of all concerned.

- I **Foundation Engineering ✓**
  1. Safe bearing capacity (SBC) of soil ✓
  2. Normal brick/RRM foundation in ordinary/hard/laterite soil ✓
  3. Raft foundation in comparatively loose soil ✓
  4. Pile foundation in slushy area. RCC pile/Wooden pile/driving method/DMC method ✓
  5. Well foundation in water flooded/river/lake areas ✓
- II **1. Normal / RRM foundations & superstructure for the buildings upto 3 floor heights ✓**  
**2. RCC frame work, footings, columns, beam etc for foundation and superstructure ✓**  
**3. Pre-fabricated structure for buildings ✓**
- III **a) For super structure: Brick work, cement solid block, cement hollow block, RCC walls etc. ✓**  
**b) Damp proof course and its importance ✓**
- IV **Plain cement concrete (PCC) ✓**
- V **Reinforced cement concrete (RCC) – Normal concrete mix and design mix ✓**
  - a) Load test – Plate load test / Test pile for designing the foundation considering the SBC/hard strata. ✓
  - b) Routine load test on piles ✓
  - c) Cube test on concrete cubes ✓
- VI **Over reinforced beams and under reinforced beams ✓**
- VII **Reinforcements used for RCC work ✓**  
**CTS bars -**  
**RTS bars ✓**  
**MS bars ✓**  
**TMT bars ✓**  
**Tests on reinforcements used for RCC work. ✓**
- VIII **RCC slabs: singly reinforced, doubly reinforced, sunken slabs, precaution to be taken in casting RCC columns & slabs ✓**



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- IX Column beam junctions, Layout of beam reinforcements on RCC columns, Spacer bars to be provided when one reinforcements comes over other – over laps horizontal and vertical standards. ✓
- X Controlling of cement concrete mix. ✓  
Quality of cement, testing of cement ✓  
Sand used, whether coarse sand or fine ✓  
Sand zones, water cement ratio ✓  
Controlling W/C ratio slump cone test to ascertain the water cement ratio and workability, casting of concrete cubes, curing of concrete – period of curing when PCC & OPC used. Usual usages of PPC & OPC. ✓
- XI Wood used for the work for doors and windows – tests on wood – water content test – dimensions of wood and its tolerances – use of Aluminium section for doors windows ✓
- XII Flooring materials – wooden flooring, CC flooring, vitrified tile flooring, glazed porcelain tiles etc. ✓
- XIII Plastering inside / outside with CM mix – curing on plastering. Allowable variation in plastering alignments. ✓
- XIV Painting to doors, windows & walls plastic emulsion & apex and its application inside / outside. ✓
- XV Water proofing work on the final roof – Why lime is used at top – Use of water proofing materials. ✓
- Preparation of estimate, awarding and execution of work as per CPWD works manual/ Institute rules, preparation of rate analysis as per CPWD norms, justification of tenders received, preparation of contractors bill, recording and check measuring the works executed etc. ✓

  
ACTING DY. DIRECTOR (ADMN.)

To

Notice Board (Hospital/AMC/ BMT Wing)