

ASSISTANT EXECUTIVE ENGINEERS (Notification No.09/2018)

Civil Engineering

(Revised Key)

2. A fictitious activity used to maintain sequential order is known as

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12. The preliminary test is repeated if the difference compressive strength of three test specimens, exceeds _____.

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15. For a structure subjected to the action of sea water, the cement used is

Sulphate resisting cement

17. The presence of calcium chloride in water

Both Accelerates setting of cement and hardening of cement

19. The clay and silt content in a good brick earth must be at least

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23. In a triangular channel the value of ratio of depth and specific energy at critical flow (E_c/Y_c) is

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27. Water enters the soil at capacity rate when:

Both Intensity of rainfall is more than the infiltration capacity of the soil and

Intensity of rainfall is just equal to the infiltration capacity of the soil

35. Max. height of a dam upto which it may be designated as low dam is given by (with usual notation)

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45. The design period recommended by the Govt. of India Manual on water supply is,

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53. The normal or medium manhole has depth about:

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58. A trickling filter plant treats 1200 m^3 / day of sewage with a BOD_5 of 220 mg / l and SS of 250 mg / l . The total solid production, assuming that primary clarification removes 30 % of BOD and 60 % of influent solids. Assume solid production in trickling filter is @ 0.5 kg / kg of applied BOD.

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62. A structural member elongates by δl under axial tension of 'P'. The external work done will be

Both P. δl and P. $\delta l/2$

65. Principle of superposition is applicable when

Material obeys the Hooke's law, deflections are linear function of applied force and the actions of applied force will be affected by small deflections of the structure (Three options are correct)

68. Castigliano's II theorem is

Both also known as minimum strain energy theorem and also known as principal of least work

91. Contours of different elevations may cross each other only in the case of

An over hanging cliff

92. Type of spatial data format which is most suitable for mapping roads in GIS is

Vector

95. The fundamental natural period of a steel- frame building without brick in-fill panels is given by

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96. A structure is to be constructed where basic wind speed is 47 m/s, risk factor = 1, terrain and size factor is 0.98, topographic factor = 1.0. the basic wind pressure would be about

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103. The slenderness ratio in a tension member as per IS code where reversal of stress is due to loads other than wind or seismic should not exceed

180

104. The design tensile strength of a member due to yielding of gross section T_{dg} is given by

$$\frac{A_g f_y}{\gamma_{mo}}$$

109. Vertical stiffeners in a bolted plate girder are

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114. The minimum grade of concrete for moderate environment is

Both M25 and M15

119. The final deflection limitation for floors and roofs as per IS 456 is....

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121. The maximum strain in the tension reinforcement in the section at failure should be

More than $(f_y/1.15 E_s) + 0.002$

127. Minimum concrete cover of prestressing steel for a pretensioned member exposed to weather shall be at least

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128. Minimum cement content for severe exposure and corresponding minimum grade of concrete as per IS 456 are

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130. In order to achieve a safe compressive strength of 2 Kg / cm^2 in brick masonry what should be the suitable range of crushing strength of bricks

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