

Q. What is the minimum pitch distance according to IS 800:2007 if d is the bolt diameter? [UPRVNL JE 2019]

A. $1.7d$

B. $2d$

C. $2.5d$

D. d

Q. Estimate the quantity of wood for a frame of the size 8 cm × 12 cm in a window of the size 1.5 m × 1 m, 12 cm horns.

[UPRVNL JE 2019]

A. 5.200 m³

B. 0.052 m³

C. 0.050 m³

D. 0.048 m³

Q. Euler critical buckling load for a prismatic column of length L , Flexural rigidity EI , hinged at both ends is _____:

[UPPCL AE 2018]

A. $2 \pi^2 EI / L^2$

B. $4 \pi^2 EI / L^2$

C. $\pi^2 EI / 4L^2$

D. $\pi^2 EI / L^2$

Q. The point of contraflexure in a beam is that location where _____: [UPPCL AE 2018]

A. The Shear force changes sign

B. The deflection changes sign

C. The slope of the elastic curve changes sign

D. the bending moment changes sign

Q. Which of the following case comes under perfect frame?

[UPPCL AE 2019]

A. Number of members = 1, number of joints = 2

B. Number of members = 7, number of joints = 5

C. Number of members = 3, number of joints = 3

D. Number of members = 4, number of joints = 3

Q. Maximum water-cement ratio and minimum cement content for moderate exposure used in plain cement concrete are _____ ; _____ respectively, as per IS-456-2000. [MPSC AE 2017]

- A. 0.60 ; 220 kg / m³
- B. 0.60 ; 240 kg / m³
- C. 0.50 ; 250 kg / m³
- D. 0.55 ; 260 kg / m³

Q. One of the following measure could not reduce or eliminate plastic shrinkage cracks: [MPSC AE 2017]

A. Erect temporary wind breakers.

B. Concrete should be poured in layers.

C. Erect temporary roof.

D. Reduce the time between placing and finishing.

Q. The shear force and bending moment are zero at the free of a cantilever beam, if it carries a : [MPSC AE 2017]

- A. Point load at the free end
- B. Point load at the middle of its length
- C. uniformly distributed load over the whole length.
- D. None of the above

Q. The weight of 1 m³ of a mild steel bar is equal to:

[DMRC JE 2019]

A. 7,850 kg

B. 7.550 kg

C. 6,850 kg

D. 7,250 kg

Q. The estimate in which the sanctioned amount is likely to exceed by more than 5% - either from rates being found insufficient due to price change or from any cause – is called:

[DMRC JE 2019]

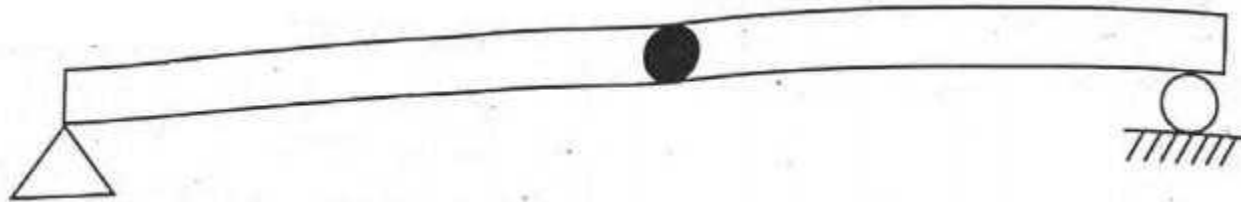
- A. Revised estimate
- B. Supplementary estimate
- C. Quantity estimate
- D. Detailed estimate

Q. A storm lasts for 8 hours and has a uniform intensity of 10 mm hr. The total observed runoff volume during this storm duration is 25 mm^3 . If the area of the basin is 400 km^2 , then the average infiltration rate is : [DMRC JE 2019]

- A. 2.56 mm / hr
- B. 1.98 mm / hr
- C. 2.19 mm / hr
- D. 2.87 mm / hr

Q. A prismatic beam is shown in the figure given below:

[GPSC AE 2020]



Consider the following statements:

- (I) The Structure is unstable
- (II) The bending moment is zero at support and internal hinge
- (III) It is a mechanism
- (IV) It is statically indeterminate

Which of these statements are correct?

- A. I, II and III
- B. I, II, III and IV
- C. I and II
- D. III and IV

Q. For bridge span less than 9m, IRC class AA and 70R loading of wheeling vehicle, the provision for impact or Dynamic action (in percentage) is [GPSC AE 2020]

A. 25

B. 20

C. 12

D. 10

Q. In Bernoulli's equation, Total head = ? [LMRC JE 2020]

A. Pressure head + Kinetic head + Potential head

B. Pressure head + Kinetic head - Potential head

C. Pressure head - Kinetic head + Potential head

D. Pressure head - Kinetic head - Potential head

Q. The unit of viscosity is: [LMRC JE 2020]

A. Poise

B. m/s

C. cumecs

D. N/m

Q. For a simply supported beam of span 'L' with point load 'P' at the centre, the elastic stiffness will be [LMRC AE 2020]

A. $384 EI / 5 L^4$

B. $48 EI / L^3$

C. $48 EI / 5 L^3$

D. $48 EI / L^4$

Q. The path along the activities having total float zero known as _____ . [LMRC AE 2020]

- A. Sspecial path
- B. Balanced path
- C. Direct path
- D. Critical path

Q. Minimum percentage of longitudinal reinforcement in RCC column is. [JPSC AE 2020]

A. 1.2

B. 0.6

C. 0.8

D. 1.0

Q. A T-beam behaves as a rectangular beam of width equal to its flange if its neutral axis is [JPSC AE 2020]

- A. Coincides with centroid of reinforcement
- B. Coincides with centroid of T-section
- C. Remains within the flange
- D. Remains in the web

Q. The probability of failure implied in the limit state design is of the order of [JPSC AE 2020]

A. 10^{-3}

B. 10^{-2}

C. 10^{-5}

D. 10^{-7}