GATE 2025 CE Feb 16 Memory Based Questions Shift 1 & Shift 2

GATE CE Memory Based Questions Shift 1

Q1. All vehicles in a peak hour come in 10 minutes interval. The value of 15 minute PHF:-
a) 0.167
b) 0.25
c) 1
d) 0.75

Correct answer - b) 0.25

Q2. Horizontal distance between staff position and point of observation is d. Error due to curvature of Earth:-
a) $1/d^2$
b) d
c) $d^{1/2}$
d) d^2

Correct answer - d) d^2

Q3. North = 30° West. What will be its WCB?

Correct answer - 330°

Q4. Bearing was N30W. It is a quadrantal bearing. What is its whole circle bearing?

Correct answer - 330

Q5. If the initial water content of the soil is 18% and the degree of saturation is 0.65. If the degree of saturation is increased to 0.852. Calculate the water content of the soil if specific gravity of clay particles is 2.74.

Correct answer - 23.59

Q6. Solve the following

$$\lim_{x\to\infty}\left(n-\sqrt{n^2+n}\right)$$

a. -2
b. -1
c. -0.5
d. 0
correct answer- c. -0.5

Q7. Y'' + 0.8 Y' + 0.16Y = 0; Y(0) = 3, Y'(o) = 4.5, Y(1) = ?
correct answer- 9.4

Q8. What is the mode of distribution in the PERT network?
Correct answer: Normal Distribution

Q9. Calculate the written period using the Risk formula, given Risk % is 5%, n = 25 years.
correct answer: 487.89 yrs or 490 years

Q10. Aeration removes what in a water treatment plant?
a. Iron (Fe)
b. Manganese (Mn)
c. Cadmium (Cd)
d. Zinc (Zn)

Correct answer- a. Iron (Fe) & b. Manganese (Mn)

Q11. The minimum size of organic and inorganic particles that will be able to settle in a tank has a Surface Overflow Rate of 45 m^3/m^2/day, the Specific gravity of inorganic

particles is 2.72, the specific gravity of organic particles is 1.2, the kinematic velocity is 1 x 10^{-6} and specific gravity is 9.81 m/sec^2.

Q12. What is the deflection angle of the curve if the Tangent length is 92m and the radius is 200m?

correct answer- 49.4

GATE CE Memory Based Questions Shift 2

Q1. Calculate order and degree for

$$t^y \frac{d^3y}{dx^3} + \left(\frac{d^2y}{dx^2}\right)^6 + \left(\frac{d}{dx}\right)^4 + y = 0$$

Correct answer- D=1, Order = 3

Q2. S = 0.67, e = 0.6, w = 0.15, G = 2.67, γ_w = 9.81, Volume of solid = $5m^3$ what is the weight of water required to fully saturate the soil?

Correct answer- 6kN

Q3. Mix selling of P&Q is 192/kg. If thecost of P is 800 for 5 kg and Q is 800 for 4 kg then find the weight/quantity ratio of P/Q

correct answer- 1/4

Q4. The runway length of an airport after correction for elevation L_2 is 700m, and G_{effect} is 1%. What is the loss in elevation?

correct answer- 840m

Q5. Goven is free mean speed, V_f = 100Kmph, q_{max} $K_j/2.V_f/2$, calculate K_j and possible value of velocity.

correct answer: K_j160 vehicle/km, possible value of velocity, v_1 = 86.31 kmph, v_2= 14.64 kmph