

ABOUT

ABOUT

A company's reputation is a critical factor in its success. A strong reputation can lead to increased sales, higher employee morale, and better customer loyalty. Conversely, a weak reputation can lead to decreased sales, lower employee morale, and higher customer churn. Therefore, it is essential for companies to actively manage their reputation.

There are several ways to build a strong reputation. First, companies should focus on providing high-quality products and services. Second, they should communicate openly and honestly with their customers. Third, they should engage in social responsibility activities.

Reputation is a key factor in a company's success. It is essential for companies to actively manage their reputation.

ABOUT

ABOUT

ABOUT

ABOUT

ABOUT

ABOUT

ABOUT

70484

-2-



- b) A concrete beam of span 8 m with the cross-sectional area of $42 \times 10^3 \text{ mm}^2$ and the moment of inertia $4.75 \times 10^8 \text{ mm}^4$ is prestressed by a parabolic cable carrying a prestressing force of 245 kN. The cable has an eccentricity of 50 mm at the centre and zero at the supports. Neglecting all losses, find the central deflection of the beam (i) self-weight + prestressed and (ii) self-weight + prestressed + live load of 1.8 kN/m. Consider concrete weight 24 kN/m^3 and $E_c = 40 \text{ kN/mm}^2$.
12. a) A pretensioned, T-section has a flange $1200 \text{ mm} \times 150 \text{ mm}$. The width and depth of the rib are 300 and 1500 mm respectively. The high-tensile steel has an area of 4700 mm^2 and is located at an effective depth of 1600 mm. If the characteristic cube strength of the concrete and the tensile strength of the steel are 40 N/mm^2 and 1600 N/mm^2 respectively, calculate the flexural strength of the T-section.

(OR)

- b) The support section of prestressed concrete beam, $100 \text{ mm} \times 250 \text{ mm}$, is required to support an ultimate shear force of 60 kN. The compressive prestress at the centroidal axis is 5 N/mm^2 . The characteristic cube strength of concrete is 40 N/mm^2 . The cover to the tension reinforcement is 50 mm. If the characteristic strength of steel in stirrups is 250 N/mm^2 , design suitable reinforcements at the section using the IS : 1343 recommendations.
13. a) A continuous prestressed concrete beam ABC ($AB = BC = 10 \text{ m}$) has a uniform rectangular section of $100 \text{ mm} \times 300 \text{ mm}$. The cable carrying an effective prestressing force of 360 kN is parallel to the axis of the beam and located at 100 mm from the soffit. (i) Determine the secondary and resultant moment at central support B. (ii) Locate the resultant line of thrust.

(OR)

- b) Briefly explain the various steps involved in the design of continuous prestressed concrete beams.
14. a) A non cylindrical PSC pipe of 1000 mm diameter and thickness of concrete shell is 75 mm is required to convey water at a working pressure of 1.5 N/mm^2 . The length of the pipe is 6 m. The loss ratio is 0.8. Determine the circumferential wire winding of using 5 mm diameter wires stretched to 1000 N/mm^2 . The maximum permissible tensile stress is 11.2 N/mm^2 .

(OR)

- b) Discuss the design considerations adopted for prestressed concrete poles.