B..E. 7th Semester Civil Engineering.
Course Name: Design of Prestressed Concrete Structures (3170624)

Extra Assignment for Low Attendance students

Last Date of submission:19/Sept./2024

***Nomenclature**: CO – Course Outcome; RBT – Revised Bloom's Taxonomy {R – Recall (Remembering), U – Understanding, AP – Applying, AN – Analysing, E – Evaluating, C – Creating}*

Qs.	Description	RBT	Cos
Q.1	A prestressed concrete beam, 200 mm wide and 300 mm deep, is used over an effective span of L=6 m to support an imposed load of 4 kN/m. The density of concrete is 25 kN/m^3. Calculate the resultant stress distribution for the end section and mid-section of the beam of the beam as shown in Fig.1. Take P= 300kN, e=e1= 40mm, e2=20mm. Give your result in tabular format and give your conclusion.	AN, AP, E	3, 4

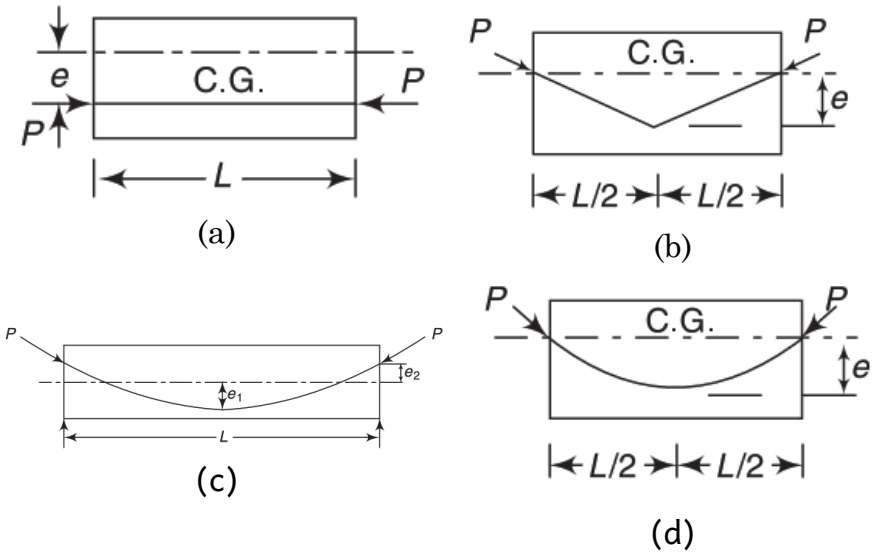

Fig.-1

Q.2	Why did the early attempts in prestressing using ordinary mild steel fail?	U,R	1
Q.3	Mention the basic difference between mild steel, high yield strength deformed steel and high-tensile steel.	R, U	1
Q.4.	What are tendon splices? Sketch some common types of tendon splices.	U, AP	1
Q.5	Explain the various post-tensioning systems based on wedge action with sketches.	U, AP	1,3