

REGISTRATION NUMBER

SRINIX COLLEGE OF ENGINEERING

1ST INTERNAL EXAMINATION-2017-18

Sub-DCS	Semeste	r-4 TH	Branch-CIVIL
Full Mark- 30			Time-1.30Hrs
ANSWER ALL QUESTIO	<u>NS (</u> PART-A)		[2X5]
1. According to IS	: 456-2000, the modu	lus of elasticity of concrete	can be taken as?
2. Modulus of ruptu	re of concrete is a me	asure of	
3. Minimum grade o	f concrete to be used	in reinforced concrete as pe	r IS: 456-2000?
(a) M20	(b) M15	(c) M10	(d) M25
4. If nominal shear s shear reinforcen to	tress τ_v exceeds the one of the tress the tress are the tress of t	lesign shear strength of con-)0 shall be provided for carr	crete $ au_c$, the nominal sying a shear stress equal
(a) τ_v	(b) $ au_c$	(c) $\tau_v - \tau_c$	(d) $\tau_v + \tau_c$
5. If the depth of actuation then the beam is a	al neutral axis in a bea called	am is more than the depth o	f critical neutral axis,

- (a) Balanced beam (b) Under-reinforced beam
- (c) Over-reinforced beam (d) None of the above

ANSWER ALL QUESTIONS (PART-B)

- 1. Define over reinforced section?
- 2. What is the definition of neutral axis?
- 3. Define limit state method?
- 4. Define factor of safety?
- 5. Why side face reinforcement provided?

ANSWER ANY ONE QUESTION (PART-C)

1. A singly reinforced rectangular beam of width 230mm and 460 mm effectively depth is reinforced with 3 numbers of 20 mm diameter bars. Find out the factored moment of resistance of the section. The materials are M20 grade concrete and HYSD reinforcement of grade Fe415. Also find out factored moment of resistance if it is reinforced with 5 numbers of 20 mm diameters bars?

2. A simply supported beam is 250mm*250mm has 2 numbers of 20 mm diameter bars and Fe415.If shear force at the center of support is 1100KN at working load. Determine the anchorage length? M20 grade concrete clear cover 25mm

3 A rectangular beam section of size 230 mm width *400 mm overall depth is reinforced with 2 numbers 10 mm diameter bars at the top and 3 numbers 16 mm diameter bars at bottom being tension reinforcement. It is subjected to factored loads, shear force of 18KN a torsion moment of 1.2 KNM and a bending moment of 18KNM.Check for the torsion reinforcement .The materials are M20 grade concrete and HYSD reinforcement of grade Fe415?

[10X1]