

Total No of Questions: [10]

SEAT NO. :

[Total No. of Pages : 2]

F.E. (2012 Pattern)

Basic Civil And Environmental Engineering

Time: 2 Hours

Max. Marks : 50

Instructions to the candidates:

1]

Answer Q. 1 or Q. 2, Q. 3 or Q. 4, and Q. 5 or Q. 6 Q.7 or Q.8

2] Figures to the right indicate full marks

3] Use of logarithmic tables, slide rule, Molliés charts, electronics pocket calculator and steam tables is allowed.

4] Neat diagrams must be drawn wherever necessary.

5] Assume suitable data if necessary.

Q.1	a)	Explain in brief the role of civil engineer in Mechanical Engineering	[4]
	b)	State comparison between PCC and RCC	[4]
	c)	State any four Field Applications of Geotechnical Engineering / Soil Mechanics	[4]
		OR	
Q.2	a)	State the various Applications of Irrigation Engineering	[4]
	b)	Draw an Illustrative sketch of any one shallow Foundation and Deep Foundation	[4]
	c)	State the Importance of Use of Recycle Construction Materials	[4]
Q.3	a)	The following consecutive readings were taken with a level and 4 m leveling staff at a common interval of 20 m. The readings are, 0.775, 1.225, 1.405, 0.685, 1.665, 1.435, 1.585, 0.635, 0.995 The level was shifted after Third and Seventh reading. The first reading was taken on Permanent Bench Mark. The RL of last point was found to be 98.110 m. Calculate The Reduced Levels of remaining Staff stations by Collimation Plane Method. Apply Usual Arithmetic check.	[5]
	b)	State various Natural resources. Explain any one in brief	[4]
	c)	Write a short note on Sustainable Development	[3]
		OR	
Q.4	a)	State one Practical / Field Application of each of the following.	[4]

		1.Total Station 2. Digital Planimeter 3. Digital Theodolite 4.GPS	
	b)	Define Surveying. State any four field applications of Surveying.	[4]
	c)	Write a short note on Solid Waste Management	[4]
Q.5	a)	Explain in brief the following Principles of Building Planning: 1. Circulation 2. Aspect	[5]
	b)	Write a short note on Green Building	[4]
	c)	Define Set-Back distance. Why it is necessary ?	[4]
		OR	
Q.6	a)	A plot owner has a Square Plot of Area, 420.50 m² . He wants to construct Ground + One storeyed bungalow. As per Rules Permissible FSI is 1.50 , Front Margin is 3 m and all other margins are 2.0 m, Calculate the possible construction on Ground Floor and First Floor	[5]
	b)	How will you achieve the filling of more space under restricted conditions of planning	[4]
	c)	Explain in brief the Sanitation as a principle of building planning	[4]
Q.7	a)	Write a short note on Ozone Depletion	[4]
	b)	Explain in brief why we prefer to use Non-Renewable Energy resources	[5]
	c)	Explain in brief the Mechanism of production of Biogas energy	[4]
		OR	
Q.8	a)	Write a short note on Water Pollution	[4]
	b)	Explain in brief the various causes of Land Pollution	[5]
	c)	As a responsible Member of the Civil Society, How will you contribute yourself to reduce the Air Pollution	[4]