



**SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**

Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: Basic Civil & Mechanical Engineering (23CE0101)

Course & Branch: B.Tech – 1st Year

Year & Sem: I B.Tech & I Sem

Regulation: R23

**UNIT –I
BASICS OF CIVIL ENGINEERING**

1	a) What are the interdisciplinary concepts in civil engineering?	[L1][CO1]	[2M]
	b) What are different forms of steel?	[L1][CO1]	[2M]
	c) What is meant by surveying?	[L1][CO1]	[2M]
	d) What do you mean by reinforced concrete?	[L1][CO1]	[2M]
	e) List out various sources of water?	[L1][CO1]	[2M]
2	a) Describe briefly about Structural Engineering.	[L2][CO1]	[5M]
	b) Write a detailed report on Building Construction.	[L1][CO1]	[5M]
3	a) Explain in detail about Geotechnical Engineering.	[L2][CO1]	[5M]
	b) Describe about Transportation Engineering.	[L2][CO1]	[5M]
4	a) Describe about Hydraulic Engineering.	[L2][CO1]	[5M]
	b) Explain in detail about Irrigation & Water Resource Engineering.	[L2][CO1]	[5M]
5	a) Write about good qualities of cement.	[L1][CO1]	[5M]
	b) List out grades of cement and their uses.	[L1][CO1]	[5M]
6	Write briefly about classification of aggregates?	[L1][CO1]	[10M]
7	a) Explain the classification, qualities and constituents of a brick.	[L2][CO1]	[5M]
	b) List out various uses of bricks in construction.	[L1][CO1]	[5M]
8	a) What is cement concrete and what are the properties of cement concrete?	[L1][CO1]	[5M]
	b) List out various uses of cement concrete?	[L2][CO1]	[5M]
9	a) List out various forms of steel used in construction. Explain briefly.	[L2][CO1]	[5M]
	b) Which steel channel sections available in the market? Give neat sketches on it.	[L1][CO1]	[5M]
10	a) What are the advantages and disadvantages of prefabrication techniques?	[L1][CO1]	[6M]
	b) Write about principles of prefabrication techniques.	[L1][CO1]	[4M]



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**UNIT –II
SURVEYING**

1	a) Differentiate between true meridian and magnetic meridian.	[L2][CO2]	[2M]																																																
	b) What is meant by traversing?	[L1][CO2]	[2M]																																																
	c) Define Benchmark.	[L2][CO2]	[2M]																																																
	d) Mention the types of levelling staff.	[L1][CO2]	[2M]																																																
	e) What are the uses of contour mapping?	[L1][CO2]	[2M]																																																
2	a) Define surveying. Mention the objectives of surveying	[L2][CO2]	[6M]																																																
	b) What are the uses of surveying?	[L1][CO2]	[4M]																																																
3	Briefly explain the various methods of horizontal measurement?	[L2][CO2]	[10M]																																																
4	a) Mention the various accessories in chain surveying and explain any two in detail?	[L1][CO2]	[5M]																																																
	b) Convert Whole Circle Bearing (WCB) into Reduced Bearing (RB) i) 20°30' ii) 132°30' iii) 256°00' iv) 345°0'	[L3][CO2]	[5M]																																																
5	a) Convert Reduced Bearing (RB) into Whole Circle Bearing (WCB) i) N75°35'E ii) S39°20'W iii) S42°40'E iv) N59°55'W	[L3][CO2]	[5M]																																																
	b) Calculate the back bearing from observed fore bearing for the following lines i) AB=55°34' ii) CD=159°53' iii) PQ=210°12' iv) RS=295°36'	[L3][CO2]	[5M]																																																
6	The bearing of the sides of a closed traverse ABCD are given below. Find the included angle of the given traverse. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Line</th> <th>Fore Bearing</th> <th>Back Bearing</th> </tr> </thead> <tbody> <tr> <td>AB</td> <td>40°</td> <td>220°</td> </tr> <tr> <td>BC</td> <td>70°</td> <td>250°</td> </tr> <tr> <td>CD</td> <td>210°</td> <td>30°</td> </tr> <tr> <td>DA</td> <td>280°</td> <td>100°</td> </tr> </tbody> </table>	Line	Fore Bearing	Back Bearing	AB	40°	220°	BC	70°	250°	CD	210°	30°	DA	280°	100°	[L3][CO2]	[10M]																																	
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7	Explain briefly the various types of levelling instruments.	[L2][CO2]	[10M]																																																
8	The readings are entered in the page of level field book as shown below. Reduce the level by height of collimation method. The R.L. of the B.M.1 is given as 200.000m. Apply the check. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Station</th> <th>BS</th> <th>IS</th> <th>FS</th> <th>RL</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1.430</td> <td></td> <td></td> <td>200.000</td> <td>BM.1</td> </tr> <tr> <td>2</td> <td></td> <td>2.015</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td>1.005</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>3.370</td> <td></td> <td>0.400</td> <td></td> <td>C.P.1</td> </tr> <tr> <td>5</td> <td></td> <td>2.975</td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td>1.415</td> <td></td> <td></td> <td></td> </tr> <tr> <td>7</td> <td></td> <td></td> <td>0.695</td> <td></td> <td>B.M.2</td> </tr> </tbody> </table>	Station	BS	IS	FS	RL	Remarks	1	1.430			200.000	BM.1	2		2.015				3		1.005				4	3.370		0.400		C.P.1	5		2.975				6		1.415				7			0.695		B.M.2	[L3][CO2]	[10M]
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**UNIT –III
TRANSPORTATION ENGINEERING AND
WATER RESOURCES & ENVIRONMENTAL ENGINEERING**

1	a) State the functions of Air Transport.	[L1][CO3]	[2M]
	b) Elucidate purpose of ballast in permanent way.	[L2][CO3]	[2M]
	c) What are the reasons to build a tunnel?	[L1][CO3]	[2M]
	d) Enumerate different stages of Hydrological cycle.	[L1][CO3]	[2M]
	e) How impurities in water are classified?	[L2][CO3]	[2M]
2	Explain briefly about Flexible and Rigid Pavements with neat sketches.	[L2][CO3]	[10M]
3	a) Briefly discuss about different types of Harbour.	[L2][CO3]	[6M]
	b) What are the functions of Water Transport.	[L1][CO3]	[4M]
4	Sketch a typical cross section of permanent way and briefly explain its components.	[L2][CO3]	[10M]
5	Draw a Layout of an Airport and briefly explain about components of an airport.	[L1][CO3]	[10M]
6	a) What are the purposes for constructing a dam?	[L1][CO3]	[5M]
	b) Explain briefly about how dams are classified according to material use.	[L2][CO3]	[5M]
7	What are the various sources of water used in water supply schemes?	[L1][CO3]	[10M]
8	a) Write a short note on Hydrology.	[L1][CO3]	[5M]
	b) What do you mean by Rainwater harvesting? and write its advantages.	[L1][CO3]	[5M]
9	Briefly discuss about quality of water. What are the important requirements of water for domestic use?	[L2][CO3]	[10M]
10	Sketch a cross section of Storage Reservoir and briefly explain about different types of Reservoirs.	[L2][CO3]	[10M]

**PREPARED BY
DEPARTMENT OF CIVIL ENGINEERING**