

GUJARAT TECHNOLOGICAL UNIVERSITY
DIPLOMA ENGINEERING – SEMESTER -EXAMINATION – WINTER 2015

Subject Code: 320007**Date:11/01/2016****Subject Name: Elements of Civil Engg.****Total Marks: 70****Time: 10:30 AM TO 1:00 PM****Instructions:**

1. Attempt all questions.
2. Make Suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Use of programmable & Communication aids are strictly prohibited.
5. Use of only simple calculator is permitted in Mathematics.
6. English version is authentic.

Q.1	Answer any seven out of ten.	14
	1. Write the list of instruments used in chain and tape survey.	
	2. Write the names of parts of prismatic compass.	
	3. Define forebearing and back bearing.	
	4. Write any four factors affecting machine foundation.	
	5. Explain water cement ratio.	
	6. Define: 1) floor space index 2) floor area ratio.	
	7. Write types of cement.	
	8. Define Bye-laws.	
	9. Define levelling.	
	10. Write uses of map.	
Q.2	(a) Enlist the elements of concrete.	03
	OR	
	(a) Write field test of cement.	03
	(b) Write factors affecting strength of concrete.	03
	OR	
	(b) Differentiate: cement mortar & lime mortar.	03
	(c) Explain purposes of machine foundation.	04
	OR	
	(c) Differentiate: brick & stone.	04
	(d) Write factors affecting layout of industrial shed.	04
	OR	
	(d) Write factors to be considered while designing machine foundation.	04
Q.3	(a) Give importance of byelaws.	03
	OR	
	(a) Give symbols of following: a)stone work b) ceiling fan c) cement concrete.	03
	(b) Give full form of following. 1)BBLC 2) DPC 3) RCC	03
	OR	
	(b) Write advantages & disadvantages of first angle method.	03
	(c) Factors affecting selection of site of industrial building.	04
	OR	
	(c) Draw a suitable layout of industrial shed.	04
	(d) Enlist the materials used in construction for civil engineering work and give importance of any two.	04

OR

- (d) Explain with sketch relation between compressive strength of concrete and water cement ratio. **04**
- Q.4** (a) Define - 1) temporary benchmark 2)line of collimation 3) reduced level. **03**
OR
 (a) Define -1)back sight 2) foresight 3) change point **03**
 (b) Explain temporary adjustment of prismatic compass. **04**
OR
 (b) Write short note on local attraction. **04**
 (c) Following readings were observed while leveling on a continuously slopping ground with 4m leveling staff. The RL of benchmark is 100m
 0.59,1.23,2.80,3.50,0.48,1.68 and 2.40m
 Calculate the R. L. of all other points. apply arithmetical check. **07**
- Q.5** (a) Explain temporary adjustment of dumpy level. **04**
 (b) Convert the following WCB into RB
 (a) $43^\circ - 30'$ (b) $133^\circ - 0'$ (c) $276^\circ - 15'$ (d) $187^\circ - 45'$. **04**
 (c) Write short note on
 1)line ranger 2) prism square 3) cross staff. **03**
 (d) Differentiate between Plan & Map. **03**
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ગુજરાતી

- પ્રશ્ન. ૧** દશમાંથી કોઈપણ સાતના જવાબ આપો. **૧૪**
૧. ચેન અને ટેપ સર્વક્ષણમાં વપરાતા સાધનોની યાદી બનાવો.
 ૨. પ્રિઝેટિક કંપાસનાં ભાગોના નામ આપો.
 ૩. વ્યાખ્યા આપો : અગ્રબેરીગ અને પ્રેવબેરીગ
 ૪. મશીન ફાઉન્ડેશન ને અસર કરતા કોઈ પણ ચાર પરીબળો લખો.
 ૫. પાઇપ અને સીમેન્ટનો ગૃહોત્તર સમજાવો.
 ૬. વ્યાખ્યા આપો : (૧) ફલોર સ્પેસ ઈન્ટેક્શન (૨) ફલોર એંચિયા ગૃહોત્તર
 ૭. સીમેન્ટના પ્રકાર લખો.
 ૮. વ્યાખ્યા આપો : બાયલોઝ
 ૯. વ્યાખ્યા આપો : તલેક્ષણ
 ૧૦. નકશાનાં ઉપયોગો લખો.
- પ્રશ્ન. ૨** અ કોન્ક્રિટનાં ઘટકોની યાદી બતાવો. **03**

અશ્વા

- અ સિમેન્ટનું સ્થળ પરીક્ષણ જણાવો. **03**
 અ કોન્ક્રિટના સામર્થ્યને અસર કરતા પરીબળો જણાવો. **03**

અશ્વા

- અ તકાવત આપો – સિમેન્ટ કોલ અને ચુનાનોકોલ. **03**
 અ મશીનનાં પાયાના હેતુઓ સમજાવો. **04**

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