

Kerala Technological University

Sample Question Paper Set-1 :Basics of civil engineering

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Instructions:

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define surveying. Give the classification of surveying. **07**
(b) Explain different instruments used for linear measurement. **07**
- Q.2** (a) Differentiate between prismatic and surveyor's compass. **07**
(b) What is construction management? Explain the importance of planning and scheduling in construction project. **07**
- Q.3** (a) Define: 1. Magnetic bearing, 2. Leveling, 3. Back sight, 4. Hydrologic cycle, 5. Declination, 6. Contour, 7. Traverse. **07**
(b) Following readings were taken on a continuously sloping ground with a 4 m staff and a dumpy level: **07**
0.575, 0.980, 1.750, 2.560, 3.880, 0.230, 1.250, 2.345, 3.340, 0.660, 2.340, 2.890.
Find RL of all the points. Assume suitable bench mark.
- Q.4** (a) Explain in brief different types of cement. **07**
(b) Find out the included angles of the traverse ABCDA using the following bearings. Also show the necessary checks. **07**
- | Line | FB | BB |
|------|---------|---------|
| AB | 122°15' | 302°15' |
| BC | 66°00' | 243°45' |
| CD | 308°15' | 133°00' |
| DA | 198°00' | 15°30' |
- Q.5** (a) Differentiate between load bearing structure and framed structure. **07**
(b) Explain different surface water sources. **07**
- Q.6** (a) Explain the role of transportation in national development. **07**
(b) Write a short note on watershed development. **07**
- Q.7** (a) Distance between two stations was measured with a 20 m chain and found to be 600 m. The same distance was measured with a 30 m chain and found to be 597.60m. If the 20 m chain was 5.0 cm too short, what was the error in the 30.0m chain? **07**
(b) Explain the working of a planimeter with a neat sketch. **07**

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Sample Question Paper Set-2 :Basics of civil engineering

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1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Role of Civil Engineer to the society. **07**
(b) Define surveying and explain the fundamental principles of surveying. **07**

- Q.2** (a) What is reciprocal ranging? Explain with neat sketch. **07**
(b) A 20 m chain was found to be 20.10 m at the beginning and 20.30 m at the end of the work. The area of the field drawn to a scale 1 cm = 8 m was found to be 32,56 cm² by planimeter. Find the true area of the field in Hectare. **07**

- Q.3** (a) What is meant by closing error in closed traverse? How would you adjust it graphically? **07**
(b) The bearings of the sides of a traverse ABCDE are as follows: **07**

side	F.B.	B.B
AB	117°45'	297°45'
BC	32°30'	212°30'
CD	292°00'	112°00'
DE	199°45'	19°45'
EA	135°15'	315°15'

Find the included angles and apply the necessary checks.

- Q.4** (a) The following perpendicular offsets were taken at 25 m intervals from a survey line to an irregular boundary line. **07**

Distance (m)	0	25	50	75	100	125	150	175	200
Ordinate(m)	0.00	2.90	3.10	4.60	4.20	3.90	4.50	2.40	0.00

Compute total area using Simpson's rule.

- (b) Write a short note for dumpy level and draw a sketch showing various components of it. **07**
- Q.5** (a) Uses and requirements of a good quality bricks. **07**
(b) Draw a detailed plan of a 2 BHK residential building. **07**
- Q.6** (a) List out principles of planning and explain Roominess and Elegance in detail. **07**
(b) Explain the loads which are to be taken into account while designing the foundations of a structure. **07**
- Q.7** (a) Brief note on water shed development. **07**
(b) Explain various aids and devices used to control, regulate and guide traffic. **07**

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Sample Question Paper Set-3 :Basics of civil engineering

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Instructions:

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Following staff readings were taken on an uneven ground with a 4 m leveling staff. Calculate reduced levels of the points by height of instrument method and apply usual checks. The instrument was shifted after 3rd, 6th and 9th readings. The first reading was taken on a bench mark of 100 m.
1.20,2.65,3.50,2.40,1.95,0.90,1.80,3.70,2.50,0.85,1.70 **14**
- (b) Discuss the characteristics of contour with suitable sketches
- Q.2** (a) Following bearings were observed in a closed traverse, determine the included angles. **14**
- | Line | F.B. | B.B. |
|------|------|------|
| AB | 70 | 250 |
| BC | 110 | 290 |
| CD | 160 | 340 |
| DE | 220 | 40 |
| EA | 300 | 20 |
- (b) Explain the fundamental principles of surveying.
- Q.3** (a) The distance between two points on the ground was measured with a 20 m chain and was found to be 1800 m. The same distance was measured with a 30 m chain and found to be 1740 m. If the 20 m chain was 5 cm too short, what was the error in the 30 m chain? **14**
- (b) How will you calculate the area having irregular boundary with the help of a planimeter?
- Q.4** (a) Discuss the types of loads acting on th building **14**
- (b) Explain the common Building components and their functions.
- Q.5** (a) Discuss the requirements of good quality bricks. **14**
- (b) Discuss the various construction materials used in Civil Engineering
- Q. 6** (a) Write short note on traffic control devices **14**
- (b) With the neat sketch explain hydrological cycle.
- Q.7** a) Discuss the methods to control the flood. **14**
- (b) What are the various modes of transportation? Discuss them.

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Sample Question Paper Set-4 :Basics of civil engineering

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- Q.1** (a) Explain the fundamental principles of surveying **07**
(b) The distance between two points on the ground was measured with 30 m chain and found to be 1500 m. The same distance was measured with a 20 m chain and found to be 1450 m. If the 30 m chain was 5 cm too short, what was the error in the 20 m chain? **07**
- Q.2** (a) The following staff readings were taken on a uneven ground with a 4 m leveling staff. Calculate reduced levels of all the points by Height of instrument method and apply usual checks. The instrument was shifted after 3rd, 6th and 9th readings. The first reading was taken on a bench mark of 100 m.
1.20 , 2.65, 3.50, 2.40, 1.95, 0.90, 1.80, 3.70, 2.50, 0.85, 1.70 **07**
(b) Define: 1) Bench mark .2) Height of Instrument. 3) Magnetic declination. 4) Reduced level 5) Magnetic meridian. **07**
- Q.3** (a) How will you calculate the area having irregular boundary with the help of a planimeter? **07**
(b) How will you calculate capacity of a reservoir? **07**
- Q.4** (a) Discuss the requirements of good quality bricks. **07**
(b) Explain the different types of paints used in civil engineering. **07**
- Q.5** (a) Explain general principles of building planning **07**
(b) Discuss various construction materials used in civil engineering **07**
- Q.6** (a) With the neat sketch explain hydrological cycle. **07**
(b) What are the various modes of transportation? Discuss them **07**
- Q.7** (a) Write short note on Traffic control devices. **07**
(b) Discuss the methods to control the flood. **07**

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