Mid-West University
Examinations Management Office
End Semester Examinations 2081

Bachelor level/ B.E. Hydropower/ 3rd Semester   Full Marks: 50

Time: 3 hours   Pass Marks: 25

Subject: Surveying I (HE433/HE203)

- *Attempt all the questions*
- *Figures in the margin indicate full marks.*
- *Assume suitable values, with a stipulation, if necessary.*
- *Candidates are required to answer the questions in their own words as far as possible.*

1. Define surveying. Explain the principle of surveying. [1+2]

2. Define accuracy and precision. Explain different sources of error in surveying. [1+2]

3. Describe the method of measuring a horizontal distance between two stations on the sloping ground. [4]

4. Compare between Prismatic and Surveyor's compass with their salient features. Define true bearing and arbitrary meridian. [3+1]

5. You are required to conduct a chain survey of your college, explain stepwise how you would proceed to conduct the survey to prepare a dimensional plan. [4]

6. Enumerate the instruments used in plane table surveying with their advantages and dis-advantages. [4]

7. Convert the following WBC to QB or QB to WCB. [4]
   i. N85°30'10''W
   ii. 220°40'
   iii. S50°20'E
   iv. 330°30'

8. The following staff reading were observed successively with a level the instrument has been moved after third and sixth readings 0.450, 2.905, 3.685, 4.500, 0.520, 2.150, 3.205 and 4.485 Prepare a level book calculate the RL of the point if 1st reading was taken at BM of 250.000 m also do athematic check. [5]

9. The following bearing were taken in close compass traverse. Find the station which are affected by local attraction. Find correct bearing of lines and compute the interior angle also. [5]

Line	FB	BB
AB	44° 40'	225° 20'
BC	96° 20'	274° 18'
CD	30° 40'	212° 02'
DA	320° 12'	140° 12'

10. An embankment of width 10m and side slopes 1.5:1 is required to be made on ground which is level in the direction transverse to the center line. The central height at 40 meter intervals are as follows: 0.90, 1.25, 2.15, 2.50, 1.85, 1.35 and 0.85. Calculate the volume of earthwork. [5]

11. Write short note on (*any three*): [3x3=9]
    i) Traverse
    ii) Levelling
    iii) Triangulation and trilateration
    iv) EDM and its working principle

The End