Reg. No. : | | | | | | | | | | | | |

Question Paper Code: 1083205

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV/ DEC 2024
Third Semester
Agricultural Engineering
U20AG306 – ENGINEERING SURVEY
(Regulation 2020)

Time: Three Hours | Maximum: 100 Marks

Answer ALL questions

PART – A (10 x 2 = 20 Marks)

1. Define the term engineering Surveying.

2. What you meant by well conditional .

3. State any two Merits and Demerits of plane table surveying.

4. List the various types of compasses.

5. What is Face Left and Face Right Observations?

6. Define GPS.

7. Why Bench Mark is important?

8. Mention the different types of leveling instruments.

9. Write any two uses of contours Plotting.

10. Define Contouring.

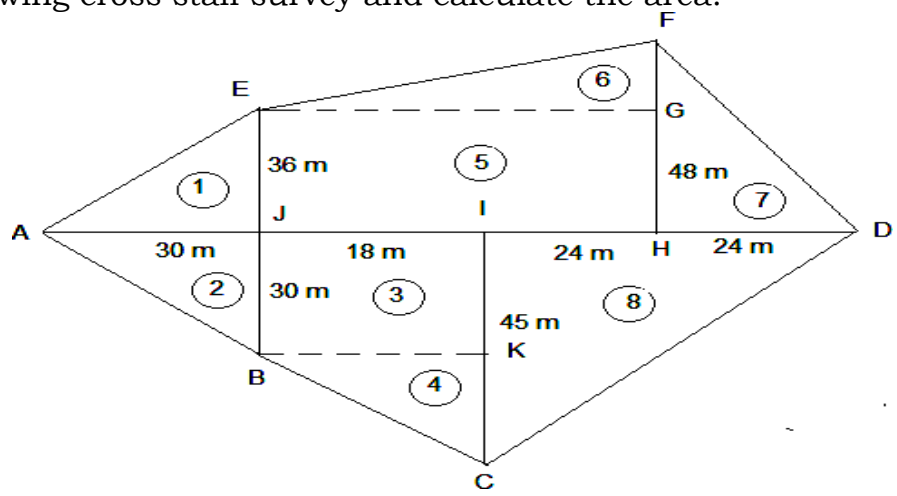
PART – B (5 x 16 = 80 Marks)

11. (a) (i) Explain the various classification of Surveying. (8)

(ii) Write the various types of chain Errors. (8)

(OR)

(b) Plot the following cross staff survey and calculate the area. (16)



12. (a) (i) Illustrate salient features of Surveyor's Compass and Prismatic Compass. (8)

(ii) List out the applications of Plane table Surveying. (8)

(OR)

(b) Find the included angle of a given reading. (16)

Side	AB	BC	CD	DE	EA
FB	106° 19′	27° 06′	279° 42′	193° 17′	126° 32
BB	286° 19′	207° 06′	99° 42′	13° 17′	306° 32′

13. (a) (i) Explain its parts with sketch about theodolite. (8)

(ii) Illustrate the uses and its application of Global Positioning System. (8)

(OR)

(b) A line was leveled tachometric ally with a tachometer fitted with an anilities lens, the value of the constant being 100. The following observations were made, the staff has been held vertically. RL.637.725.

Instrument station	Height of axis	Staff at B.M	Vertical angle	Staff reading
A	1.44	B.M	-2˚24’	1.20, 1.83, 2.46
A	1.44	B	+4˚36’	1.35, 1.82, 2.29
B	1.41	C	+6˚12’	0.72, 1.38, 2.04

Compute the elevation if A, B and C. (16)

14. (a) (i) Describe in detail on various methods of leveling. (8)

(ii) Enumerate various step procedures involved in leveling. (8)

(OR)

(b) The following consecutive readings were taken with a level and 4m leveling staff ground at common interval of 30 m as 0.625 on A,0.855, 2.675, 3.585, 3.635, 0.665, 1.035, 1.585, 2.425, 3.645, 0.765, 1.375 and 2.015 on B. The elevation of point A is 120.50 m. Makeup level book page apply usual check and calculate the reduced levels of points. Use rise and fall method. (16)

15. (a) (i) Mention the characteristics and uses of contour plotting. (8)

(ii) Write the various methods to find cross sectional area and volumes. (8)

(OR)

(b) An embankment of width 10 m and side slopes 1 ½:1 is required to be made on a ground which is level in a direction transverse to the centre line. The central heights at 40 m intervals are as follows: 0.90, 1.25, 2.15, 2.50, 1.85, 1.35, and 0.85. Calculate the volume of earth work according to (16)

(i) Trapezoidal formula

(ii) Prismoidal formula

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