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Reg. No. :

Question Paper Code: 54A06

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2018

Fourth Semester

Agriculture Engineering

15UAG406 – SURVEYING FOR AGRICULTURE

(Regulation 2015)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The main Principle of surveying is to   CO1- R

   (a) work from part to whole   (b) Higher level to lower level

   (c) Work from whole to part   (d) Lower level to higher level

2. Hydrographic surveying deals with the mapping of   CO1- R

   (a) heavenly bodies   (b) large water bodies

   (c) mountainous region   (d) canal system

3. Convert the $136^0 45^{'}$ whole circle bearing to reduced bearing   CO2- R

   (a) S $43^0 15^{'}$ E   (b) N $43^0 15^{'}$ E   (c) N $53^0 15^{'}$ W   (d) S $63^0 15^{'}$ W

4. Inaccessible points may be located by the   CO2- R

   (a) Radiation method   (b) Resection method

   (c) Intersection method   (d) Traversing method

5. The least count foe theodolite is   CO3- R

   (a) 10 sec   (b) 20sec   (c) 40sec   (d) 30 sec

6. The theodolite is an instrument used for measuring very accurately   CO3- R

   (a) Horizontal angles only   (b)Vertical angles only

   (c) Linear measurements only   (d) Horizontal and Vertical angles only

7. A _____ is the reference point of known elevation   CO4- R

   (a) Bench mark   (b) Total station

   (c) Datum   (d) GTS bench mark

8. A level surface to which elevation of different points are referred is   CO4- R
   known as

   (a) Level surface   (b) Datum   (c) Horizontal   (d) Plane

9. The real image of an object formed by the objective, must lie   CO5- R

   (a) in the plane of cross hairs   (b) at the centre of the telescope

   (c) at the optical centre of the eye-piece   (d) anywhere inside the telescope

10. A series of closely spaced contour lines represents   CO5- R

    (a) Steep slope   (b) Gentle slope   (c) Uniform slope   (d) Plane surface

PART – B (5 x 2= 10Marks)

11. State Simpson's rule and Give the formula   CO1- R
12. Differentiate between magnetic bearing and True Bearing   CO2- R
13. Define BM and list its types.   CO3- R
14. What is horizontal equivalent? Why it is not a constant?   CO4- R
15. What you mean by temporary adjustments of a Theodolite?   CO5- R

PART – C (5 x 16= 80Marks)

16. (a) What is chain surveying? Explain the various operations involved   CO1-U   (16)
         in chain surveying.

Or

54A06

(b) A line was measured with a steel tape which was exactly 30m at 18 degree and pull of 5KG and the measured length was 459.242m.The temperature during the measurement was 28^oC on the pull applied was 10KG.The tape was uniformly supported during the measurement. Find the true length of the line of cross sectional area of the tape was $0.02m^2$.then α =0.000117. E =$2.1X10^6KG/cm^2$.
                                                                    CO1- App   (16)

17. (a) Explain the various parts of surveyor compass with a neat sketch   CO2-U   (16)

Or

(b) Explain the procedure of two point problem in plan table survey   CO2-U   (16)

18. (a) With a neat sketch explain various parts of the theodolites.   CO3-U   (16)

Or

(b) What are the systems of tachometry measurements? Explain .   CO3-U   (16)

19. (a) Explain the types of leveling.   CO4- U   (16)

Or

(b) The following consecutive readings were taken with a dumpy level along a chain line at a common interval of 15 m. 3.150, 2.245, 1.125, 0.860, 3.125, 2.760, 1.835, 1.470, 1.965, 1.225, 2.390 and 3.035 m. The first reading was at a chainage of 165 m where the RL is 98.085. The instrument was shifted after the fourth and ninth readings. Find the RL of all the points.
                                                                    CO4- Ana   (16)

20. (a) Describe with sketches, the characteristics of contours.   CO5- U   (16)

Or

(b) How do you compute the reservoir volume? Explain with an example.   CO5- U   (16)