B. Tech. (Civil) 4th Semester F. Scheme Examination, May–2019

SURVEYING-II

Paper–CE-208-F

Time allowed : 3 hours]   [Maximum marks : 100

Note : (i) Question No. 1 is compulsory. Attempt one question from each section.

(ii) All questions carry equal marks.

(iii) Assume missing data, if any, suitably.

1. Explain the following :   10×2=20

   (a) Strength of figure

   (b) Correction for curvature

   (c) Importance of law of weights

   (d) Star at culmination

   (e) Azimuth and lattitude

   (f) Isocentre and tilt displacement related to photogrammetry

   (g) Scale of a vertical photograph

   (h) Use of GPS

   (i) Geodetic surveying

   (j) Types of photographs.

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3. (a) Discuss the different multiplier circuits with neat and clean diagrams. 10

   (b) Find the Forward current for germanium diode at room temperature 27°C when voltage across it is 0.5 volt and compare with current when temperature rises to 80°C. 10

Section-B

4. (a) Explain the operation of MOSFET transistor in Enhancement mode. 10

   (b) Draw and explain the frequency respond of common source (CS) amplifier. 10

5. (a) Draw and explain the smell signal model of MOSFET. 10

   (b) Explain the different biasing circuits of MOSFET amplifiers. 10

Section-C

6. (a) Discuss the different configuration of Transistor and their operation. 12

   (b) A germanium transistor with $\alpha = 0.98$ gives a reverse saturation current $I_{CBO} = 15\mu$A in CB configuration. When transistor is used in CE configuration with a base of 0.22μA. Calculate the Collector current. 08

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the longitudinal lap is 65% and side lap 35%, determine the number of photographs required to cover an area of 232 sq. km. 10

(b) What do you understand by relief displacement on a veritcal photograph ? Derive an expression for its determination. 10

Section—D

8. (a) Describe remote sensing and its types. Describe in detail the applications of remote sensing in Civil Engineering. 10

(b) Describe the different components, data input and output mechanism for GPS in detail. Also give the limitation of this technique. 10

9. (a) Describe the component subsystems of GIS. Also explain the applications of GIS. 10

(b) What are the raster and vector data structures ? Describe the advantages and disadvantages of these data structures.

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