GIET UNIVERSITY, GUNUPUR – 765022

B. Tech (Fourth Semester – Regular) Examinations, June – 2021

BPCCE4040 – SURVEYING AND GEOMATICS

(Civil Engineering)

Time: 2 hrs   Maximum: 50 Marks

Answer ALL Questions
The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions)   **(1 x 10 = 10 Marks)**

Q.1. Answer *ALL* questions	[CO#]	[PO#]
a. Which of the following is made in connection with the construction of streets, water supply systems, sewers?	CO1	PO 1

     (i) Traverse surveying   (ii) Hydrographic surveying

     (iii) Cadastral surveying   (iv) City surveying

b. Pacing is difficult in _____	CO2	PO 1

     (i) Smooth surfaces   (ii) Plain areas

     (iii) Rough ground   (iv) Plateaus

c. Length of base line in primary triangulation is given as_____	CO3	PO 1

     (i) 1.5 -5 km   (ii) 0.5 – 10 km

     (iii) 0.5 – 3 km   (iv) 5 – 15 km

d. Covering whole survey area with primary triangulation but filling the gaps with secondary and tertiary triangulation involves in which among the following processes?	CO3	PO 1

     (i) Central system   (ii) Quaternary triangulation

     (iii) Grid iron system   (iv) Well conditioned system

e. Which of the following curves helps in avoiding overturning of vehicles?	CO4	PO 1

     (i)Simple curve   (ii) Transition curve

     (iii) Compound curve   (iv) Reverse curve

f. The optical square is used to measure angles by	CO2	PO 1

     (i)Refraction   (ii)Reflection

     (iii) double refraction   (iv) double reflection

g. The lines of earth's magnetic field run from	CO3	PO 1

     (i) south to north   (ii) north to south

     (iii) east to west   (iv) west to east

h. The latitude and departure of a traverse line are both positive when the whole circle bearing of the line lies in the	CO1	PO 1

     (i) first quadrant   (ii)second quadrant

     (iii) third quadrant   (iv)fourth quadrant

i. . Which of the following area calculation methods is mostly used?	CO4	PO 1

     (i)Area of double meridian   (ii)Area by co-ordinates

     (iii)Area by planimeter   (iv)Area by Simpson's rule

j. The formula for difference in elevation can be given as_____	CO3	PO 1

     (i) D = V + (I-R)   (ii) D = V + (I+R)

(iii) D = V – (I-R)   (iv) D = V * (I-R)

PART – B: (Short Answer Questions)   **(2 x 5 = 10 Marks)**

Q.2. Answer **ALL** questions   [CO#]   [PO#]

a. Show the main types of projections used in drawing?   CO1   PO 1

b. Summarise different kinds of chains used for linear measurements?   CO2   PO 1

c. Distinguish the prismatic compass and surveyors compass?   CO3   PO 1

d. Define G.I.S. and determine about the Four M's?   CO4   PO 1

e. Outline about the classification of Photogrammetry?   CO4   PO 1

PART – C: (Long Answer Questions)   **(6 x 5 = 30 Marks)**

Answer **ANY FIVE** questions   Marks   [CO#]   [PO#]

3. Interpret the various types of scales? Describe any two of the   (6)   CO1   PO 1
    scales?

4. Explain about the general classification of surveying? Explain in   (6)   CO1   PO 1
    any one of instruments used survey?

5. Determine the effects of curvature and refraction in leveling.   (6)   CO2   PO 1
    Find the correction due to each and the combined correction.
    Why are these effects ignored in ordinary leveling?

6. In order to find the difference in elevation between two points P   (6)   CO2   PO 2
    and Q, a level was set upon the line PQ, 0 metres from P and
    1280 metres from Q. the readings obtained on staff kept at P and
    Q were respectively 0.545 metre and 3.920 m. Find the true
    difference in elevation between P and Q.

7. Explain about instruments used for linear and angular   (6)   CO3   PO 1
    measurements? Explain any one of the Linear measurements and
    the angular measurements.

8. The following interior angles were measured with a sextant in a   (6)   CO3   PO 2
    closed traverse. The bearing of the line AB was measured as 60^0
    00' with prismatic compass. Calculate the bearings of all other
    line if $L^A=140^0$ 10' ; $L^B=99^0$ 8'; $L^C=60^0$ 22'; $L^D=69^0$ 20'.

9. Define sensors, classify the sensors and Outline a note on various (6)   CO4   PO 1
    types of sensors used for remote sensing in India?

10. Determine about the remote sensing process?   (6)   CO4   PO 1

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