UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
END Semester Examination MAY 2021

Program: B-Tech GIE   Semester: VI
Course: Geodesy and Surveying   Time: 180 minute (3 hour)
Course Code: PEGS-3017   Max. Marks: 100
Number of pages:03
Note: online submission

SECTION A

1. **Each questions carry 5 Marks**   **6 X 5 = 30 M**
2. **Type answer for all the questions in the answer sheet using given space.**
3. **The maximum word limit is 30 or 3 lines (only question number 1, 2 & 3) and type single word answer for question number 4, 5 and 6).**

Q.No	Question	COs
1	Define the following terms in context with surveying : a) Scale & b) Plan	CO1
2.	Distinguish between the following terms: i) Trivet and Tribrach ii) Pegs and Arrows	CO2
3	Write a brief note on importance of two basic principles of survey in geodesy.	CO3

4	Fill in the blanks with suitable answer:
	  i. Which type of needle is used in a surveyor compass ………………………
	  ii. In methods of tachometer survey, the base of stadia staff intercept inversely with horizontal staff position is called as………………………..
	  iii. The line passes through zero declination is known as……………………..
	  iv. The closing error in a Closed Travers is adjusted by……………………….. rule
	  v. The absences of spherical aberration is called as ………………
		CO4

5	MCQ (Choose correct answer and type the answer)	A) answer	B) answer	C) answer	CO5
	a) The Egyptian first linear measurement is known as…	Cubit	Groma	Pace	
	b) The Vernier theodolite is also called as….	Calliper	Transit	Optical	
	c) A telescope is its ability to produces a sharp image and good the object are seen clearly through the telescope.	Resolution	Aplanation	Definition	
	d) The line of collimation is perpendicular to the ………. Axis in theodolite.	Trunnion	Vertical	Horizontal	
	e) The one hundred grad is equal to …..degree	60	45	90	

6	TRUE/False (Choose correct answer and type the answer)	A) True	B) False	CO6
	i) The external focusing telescope provided convex lens	A) True	B) False	
	ii) The elevations and distance can be find with inclined sights.	A) True	B) False	
	iii) The preliminary Inspection of the area to be survey is known as construction survey.	A) True	B) False	
	iv) The Fiducial edge of the Alidade should be in a curved line.	A) True	B) False	
	v) A traverse is said to be open when it does form a closed Polygon	A) True	B) False	

SECTION B

1. **Each questions carry 10 Marks**   **5 X 10 = 50 M**
2. **Scan and upload your answer**
3. **The maximum word limit is 500 or one page**

Q.No	Question	COs
7	Define errors and discus in brief classification of errors in context with Surveying and Geodesy.	CO1
8.	Describe in brief the role and significance of following terms in Surveying. a) Accuracy and Precession b) Scale of chord c) Bench marks d) Azimuth	CO2
9	Explain in brief the significance of different type of gravimeters analysis in context with Geodesy. **OR** Explain in brief the classification of levelling and its merits and demerits in Surveying.	CO3
10	Write a short note on following terms and their importance in linear measurements. a) Chaining b) Offset c) Ranging d) Traverse e) Taping	CO4
11	Discus in brief the procedure, merits and demerits in radiation, intersection and resection methods of plane table survey.	CO5

SECTION B
1. **The question number 12 answer either a, b, OR c**   **1 X 20 = 20 M**
2. **Scan and upload your answer**
3. **The maximum word limit is 750 or two page**

Q.No	Question	COs
12	a) A compass traverse ABCDEA was run anticlockwise and following bearing were taken	CO6

Line	FB	BB
AB	**150° 15'**	**330° 15'**
BC	**20° 30'**	**200° 30'**
CD	**295° 45'**	**115° 45'**
DE	**218° 38'**	**38°38'**
EA	**120° 30'**	**300° 30'**

Determine the angle A, B,C, D & E and correct all the bearing free from local attraction.

13 M

b) In Field measured horizontal length of a line CD was 45.75 M, used steel tape of nominal length of 30 M when the slope angle was 3°45' and the mean temperature and tension applied were respectively 30º C and 100 N. If the standard length of the tape was 30.15M at 35º C and 55 N tension. Determine the correct horizontal length. Tape Weight = 0.18 N/m^2 Cross sectional area = 2 mm. E= 2 X 10^5 N/mm^2 and α=1.12X10^{-5} per   **07 M**

OR

c) Write a short note on following terms importance in Geodesy and Surveying. i) Datum ii) Bearings iii) Meridians iv) Line of collimation v) Magnetic variation and declination

20 M