469 Register No.:

April 2019

Time – Three hours
(Maximum Marks: 75)

(N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.)

PART – A

1. Define surveying.
2. What are the types of compass?
3. What is the necessity of tape correction?
4. What is correction for curvature?
5. Define levelling.
6. Write any two uses of contours.
7. What is check levelling?
8. What is line of collimation?

PART – B

9. Write short notes on plane surveying.
10. Describe about base line, check line and tie line.
11. Define the term true meridian.
12. What is local attraction? How it is eliminated?
13. What are the types of benchmark? Explain them.
14. Write the fundamental axis of the levels.
15. What are the fundamental lines of levelling.
16. State the applications of GPS.

[Turn over.....

PART – C

17. (a) To continue a survey line AB past on obstacle, a line BC 200m long was set out perpendicular to AB and from C, angles BCD and BCE were set out at 60° and 45° respectively. Determine the length which must be chained off along CD and CE in order that ED may be in AB produced. Find also the obstructed length BE.

(Or)

(b) What are the instruments used for chain surveying? Explain about it.

18. (a) The following bearings are observed to run a closed compass traverse ABCDE. At what station do you suspect local attraction? Find the corrected bearings.

Line	FB	BB
AB	75° 05′	254° 20′
BC	115° 20′	296° 35′
CD	165° 35′	345° 35′
DE	224° 50′	44° 05′
EA	304° 50′	125° 05′

(Or)

(b) Calculate the included angle from the bearing given for an anti-clockwise closed traverse ABCDE, apply usual check.

Line	FB	BB
AB	107° 15′	287° 00′
BC	22° 00′	202° 00′
CD	281° 30′	101° 30′
DE	189° 15′	9° 15′
EA	124° 45′	304° 45′

19. (a) What are the levelling staffs? Explain its types.

(Or)

(b) Explain the following technical terms in levelling. (i)Back sight (ii)Fore sight (iii)Intermediate site (iv)Line of collimation (v)Bubble line

20. (a) Write the field procedure for profile levelling with neat sketches.

(Or)

(b) Explain about check levelling and reciprocal levelling.

21. (a) The area enclosed by contours at the site of reservoir and the face of proposed dam as computed by planimeter are as shown below taking 1000m as bottom level of reservoir and 1030m as the highest level as achievable. Compute the capacity of reservoir.

Contour level	1000	1005	1010	1015	1020	1025	1030
Area (Sq.m)	400	1500	3000	8000	18,000	25,000	40,000

(Or)

(b) Explain about fundamental importance of GPS.
