

2022

SURVEYING-I

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

Answer **any five** questions.

1. a) What are the instruments used in chain survey? How is a chain survey executed in the field (4+6=10)
b) What is field book? With suitable sketch, explain the differences between a single line and double line booking. (4+6=10)
2. a) Explain plane and geodetic survey. Write briefly the basic principles of survey. (5+5=10)
b) What are the obstacles a surveyor faces while doing chaining? Explain. (10)
3. a) What is contour interval? Explain the important considerations which need to be considered while selecting a proper contour interval. (3+7=10)
b) Briefly explain the different methods of locating contour. (10)
4. a) Describe in detail how you would proceed in the field for (i) profile levelling, and (ii) cross-sectioning (5+5=10)
b) Explain how the procedure of reciprocal levelling eliminates the effect of atmospheric refraction and earth's curvature as well as the effect of inadjustment of the line of collimation. (10)
5. a) What are the sources of errors in compass survey and what precautions will you take to eliminate them? (10)
b) What is local attraction? How is it detected and eliminated? (3+7=10)
6. Define the following terms: 5x4=20
 - (i) True bearing and Magnetic bearing
 - (ii) Fore bearing and Back bearing
 - (iii) Magnetic declination
 - (iv) True meridian and magnetic meridian
 - (v) Whole circle bearing system and Quadrantal bearing system