C–0709

Sub. Code
93511

## DIPLOMA EXAMINATION, APRIL 2019

### Non-Semester

### Land Survey Engineering

### BASICS OF SURVEYING AND COMPASS SURVEYING

### (2017 onwards)

Time : 3 Hours                                    Maximum : 75 Marks

**Part A**                         $(10 \times 2 = 20)$

Answer **all** questions.

1.  What are the types of surveying?

2.  State the principle of surveying.

3.  Define check lines.

4.  Mention the different types of chain.

5.  What is local attraction?

6.  What are the types of traverse?

7.  What are the equipments used in plane tabling?

8.  State any two Lahman's rule.

9.  What is mean by cross-section?

10. Define Contour.

**Part B**                    (5 × 5 = 25)

Answer **all** questions.

11. (a)  Explain about the object of surveying.

Or

(b)  What is plane surveying and uses?

12. (a)  Briefly explain any two chain correction in chain survey.

Or

(b)  Explain in detail about ranging and types.

13. (a)  Convert the following back bearing into fore bearing

(i)    150°30'

(ii)   210°45'

(iii)  80°45'.

Or

(b)  What are the necessary of compass surveying?

14. (a)  What are the errors in plane tabling?

Or

(b)  State two point problem and three-point problem.

15. (a)  Write down the trapezoidal formula to calculating the capacity of reservoir.

Or

(b)  What is mean by capacity of reservoir?

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**Part C**                    (3 × 10 = 30)

Answer **all** questions.

16. (a) What are the types of classification of surveying?

        Or

    (b) Describe general principles of surveying.

17. (a) Draw a neat sketch of a prismatic compass and indicate the various parts and functions.

        Or

    (b) The following are the bearing observed at the stations A, B, C, D of a closed traverse ABCD carried out with the help of prismatic compass.

| LINE | F.B | B.B |
|------|------|------|
| AB | 60°30' | 240°30' |
| BC | 120°30' | 300°30' |
| CD | 210°15' | 30°15' |
| EA | 320°45' | 140°45' |

18. (a) Explain about the three-point problem.

        Or

    (b) A reservoir has the following water spread areas. Find the volume of the reservoir by primordial rule and trapezoidal rule.

| Contour level | Area under the contour (m$^2$) |
|---------------|-------------------------------|
| 120 | 605 |
| 130 | 1210 |
| 140 | 1950 |
| 150 | 2500 |
| 160 | 3800 |

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**Sub. Code**
**93512**

**DIPLOMA EXAMINATION, APRIL 2019**

**Non Semester**

**Land Survey Engineering**

**ENGINEERING SURVEYING**

**(2017 onwards)**

Time : 3 Hours          Maximum : 75 Marks

**Part A**          $(10 \times 2 = 20)$

Answer **all** the questions.

1.   Define compound curve.

2.   What is sight distances?

3.   Define bench mark.

4.   What is fore sight?

5.   Mention classification theodolite.

6.   Define departure.

7.   Give the use of analytic lens.

8.   What is subtence bar?

9.   Write the formula for combined correction.

10.  What is correction curvature?

**Part B** (5 × 5 = 25)

Answer **all** the questions.

11. (a) Explain in detail about the horizontal curve and vertical curve.

Or

(b) Describe in detail about the mine surveying.

12. (a) Explain in detail about the levelling staff and types.

Or

(b) Calculate the correction (i) correction of curvature (1) 620 m (2) 0.75 km (ii) correction of refraction (1) 420 m (2) 5.75 km (iii) combined correction of (1) 130 m (2) 1.25 km.

13. (a) What are the temporary adjusments of theodolite? And explain.

Or

(b) Explain the gale's traverse table.

14. (a) Explain in detail about the different stadia methods.

Or

(b) What are the different methods of tacheometry?

15. (a) Explain in detail about the instrument axes at different levels.

Or

(b) Explain in detail about the base of the object accessible.

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**Part C** (3 × 10 = 30)

Answer **all** the questions.

16. (a) Explain in detail about the difference between the height collimation method and rise and fall method.

Or

(b) Describe in detail about the types of curve details.

17. (a) The following observed staff reading successively with a level the instrument have been moved after the fourth and seventh readings : 0.545, 0.125, 0.250, 1.255, 1.680, 1.930, 1.340, 1.555, 0.960, 0.550 and 1.630 using the rise and fall method and reduced level 100.000.

Or

(b) Describe in detail about the neat sketch and parts of theodolite.

18. (a) Explain the difference between tangential and stadia tacheometry.

Or

(b) Explain in detail about the methods of trigonometric levelling.

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**DIPLOMA EXAMINATION, APRIL 2019**

**Non-Semester**

**Land Survey Engineering**

**MODERN SURVEYING**

**(2017 onwards)**

Time : 3 Hours                    Maximum : 75 Marks

**Part A**                    $(10 \times 2 = 20)$

Answer **all** questions.

1.   Define geodimeter.

2.   List out the total station instruments.

3.   What is electromagnetic wave?

4.   Write the advantages of total station survey.

5.   What are the applications of total station survey?

6.   What are the types of EDM instruments?

7.   What is mean sea level?

8.   Define remote sensing.

9.   Define map.

10.  G.P.S. Stands for.

**Part B**                    (5 × 5 = 25)

Answer **all** questions.

11.  (a)  Explain about the characteristics of total station.

          Or

     (b)  Explain detail about the properties of electromagnetic waves.

12.  (a)  Describe about the in detail fundamental measurement of the total station.

          Or

     (b)  Explain the working principles of EDM.

13.  (a)  Describe about the adjust image and recital focus.

          Or

     (b)  Explain about the tripod set up total station.

14.  (a)  Explain about the application of remote sensing.

          Or

     (b)  Briefly explain about land use and land cover.

15.  (a)   Explain about the functions of DGPS.

          Or

     (b)  Explain in detail about the map and types.

**Part C**                    (3 × 10 = 30)

Answer **all** questions.

16.  (a)  Explain in detail about the functions of modulation.

          Or

     (b)  Explain about the electromagnetic instruments and types.

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17. (a) Write the field procedure of run traverse survey.

Or

(b) The co-ordinates of two points A and B are as follows to find the length and bearing AB

Point  Northing  Easting

A      600.25    740.75

B      940.78    415.6

18. (a) Explain in detail about the functions and methods GIS.

Or

(b) Explain about the reference system, co-ordinate system and satellite signals.

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