4020

BOARD DIPLOMA EXAMINATION, (C-14)
OCTOBER/NOVEMBER-2018
DCE-FIRST YEAR EXAMINATION

SURVEYING-I

Time : 3 Hours] [Total Marks: 80

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PART-A

4X10=40

Instructions   :   1. Answer **All** questions.

2. Each question carries **Four** marks(Two marks for each bit).

3. Answer should be brief and straight to the point and shall not exceed

five simple sentences.

1. (a) Define Surveying. (b) Stat four duties of surveyor.
2. (a) List out any four instruments used for taking horizontal distances.
   (b) Define Reconnaissance survey
3. (a) State any four purpose of chain survey.
   (b) Define well conditioned triangle.
4. (a) Define the following terms (i) Basic line (ii) Check line.
5. (a) Draw the conventional signs following (i) River ii) Building
   (b) Distance between two points A and B measured along the slop is 252m., find the horizontal distance between A and B when angle of slope is 12^0.
6. (a) State two functions of cross staff.
   (b) State four duties of Leader.
7. (a) Define bearing.
   (b) Name four parts of prismatic compass.
8. (a) List out temporary adjustments in prismatic compass.
   (b) Convert the following WCB into RB (i) 77^0 30 ii) 330^0 30.
9. (a) Given the backward bearing of line AB. Find the forward bearings.
   i.   N 50^0 30 W   ii. S 30^0 45 E
   (b) Mention the errors due to external influence.
10. (a) State any two uses of Abney level.
    (b) State the purpose of planimeter

PART-B

10X4=40

Instructions : 1. Answer any **Four** questions.
2. Each question carries **ten** marks.
3. Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer

11. Explain classification of survey based on
    i.   Nature of the field survey
    ii.   Instruments used.

12. (a) Define offset and list out the types of offsets.
(b) A survey line ABCD is crossing a pond. Station and B and C on the opposite sides of the pond. Two lines BM (270m) and BN(330m) were then set out either of the pond and clearing it. Also MC and CN are founded to be 150m and 165m respectively. Calculate the missing length BC of the mainline.

13. (a) Explain the chaining on sloped ground by stepping method.
(b) A chain was tested before starting the survey and was rounded to be 20m. at the end of the survey, it was tested again and found to be 20.12m. Area of the plan of the field drawn to a scale of 10mm equals to 6m was 5040mm^2. Find the true area of field in m^2.

14. (a) Explain the procedure for reciprocal ranging with a sketch.
(b) Distinguish between trapezoidal rule and Simpson's rule.

15. (a) State the situation in which compass survey is not suitable.
(b) Define closing error and explain how it is adjusted by Bowditch's rule.

16. (a) Define magnetic declination and explain briefly about its variations.
(b) Define local attraction, how do you detect and eliminate local attraction?

17. (a) State the checks on closed and open traverse?
(b) The following readings were observed in running a closed traverse. Calculate the interior angles and check them.

Line	FB	BB
AB	$42^0 30$	$222^0 30$
BC	$122^0 50$	$302^0 50$
CD	$182^0 10$	$2^0 10$
DA	$323^0 50$	$143^0 50$

18. (a) Draw a neat sketch and label the parts pantagrapah.
(b) Explain about working procedure of pantagraph.

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