BLACK DIAMOND SCHOOL OF ENGINEERING

CIVIL ENGINEERING DEPARTMENT

QUESTION BANK

4TH SEMESTER

SUB: SURVEYING-I

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Survey - I

4th Semester - Civil Engineering.

Q 1. Short question. [2 x 10]

a) What is Bench mark?

b) What is declination?

c) What do you mean by well-conditioned triangles

d) Write the classification of surveying?

e) Differentiate between plane and geodetic surveying.

f) What is Theodolite?

g) What is surveying?

h) What is magnetic bearing?

i) What is true bearing?

j) Define plane table surveying.

Q 2.

a) If WCB of line AB and BC are 30°15' & 120°30' what is included angle of ABC.

b) Find value of internal angles for following closed fra

line	FB
AB	45°
BC	150°
CD	225°
DA	330°

c) For a closed traverse ABCD, the following bearings were taken by prismatic compass. Correct the bearing for local attraction.

line	FB	BB
AB	150° 0'	330° 30'
BC	285° 0'	104° 30'
CD	200° 0'	20° 0'
DA	350° 0'	170° 0'

d) What is the purpose of theodolite surveying

e) What are the errors in levelling and also write its precautions.

f) Explain Bowditch's method.

Q3.

a) If arithmetic sum of latitudes of a closed traverse is ΣLat and closing error in latitude is dx, the correction for a side whose latitude is l, as given by Transit Rule is what and explain.

b) The length of a survey line measured with a 20m chain was found to be 327m, if the chain was 3cm too long. Calculate the true length of the line, and briefly describe the method of chaining.

c) Explain purpose and principles of chain surveying

d) Write the errors in angle measurement with compass its sources & remedies.

SURVEYING - I.

4th Sem, Civil Engg.

1. a Short questions :- (Answer all).

a) What is hydrographic survey?

b) Define line of sight.

c) What is tacheometry survey?

d) Write Transit rule.

(e) Define levelling.

(f) What is Geodetic surveying.

(g) Define reverse curve.

(h) Define true meridian.

(i) What is magnetic declination.

(j) What is point of commencement.

1X x

2. Answer the following question :-

a) The length of a line measured with 20m chain was found to be 500m. It was subsequently found that the chain was 0.04 m too long. What is the length of line?

(b) The length of a survey line was measured with a 20m chain and was found to be equal to 1200 m. If the length again measured with 25m chain it is 1212 m. On comparing the 20m chain with the test gauge, it was found to be 1 decimet too long. Find the actual length of 25 m chain used.

(c) What is plane table surveying and how many methods are used in it?

(d) What is the purpose of theodolite surveying.

(e) Write the temporary adjustments of levelling.

f) Instruments for setting offset like Cross-staff, what is its necessity.

3. Long questions

a) Following readings were taken in a closed traverse. Draw a rough traverse showing the included angles. Calculate the corrected bearings and indicate the stations free from local attractions. Show specimen calculation.

Stations.	P	Q	R	S.
Line	PQ	QR	RS	SP
F.B	50°30'	140°30'	219°00'	328°00'
B.B	230°30'	319°00'	38°00'	150°30'.

(b) What is contour? What are the factors upon which the contour interval?

Survey - 1

4th Sem, Civil Engg.

1. Short Questions :-

a) What is levelling ?

b) Define 'degree of curve' ?

c) State any two uses of theodolite ?

d) Define : (i) Chaining (ii) Ranging ?

e) What is level line and horizontal line ?

f) What is Secondary Survey ?

g) State difference between contour interval and horizontal equivalent ?

h) Difference between plain and geodetic Survey.

i) State two reason of local attraction in Compass Surveying ?

j) State the uses of Contour maps.

2. Answer the following Questions :-

a) State the basic Principles of Surveying. Explain any one in brief ?

b) Explain the method of intersection of Plane table Survey with neat sketch.

c) State the Sources of errors in theodolite.

d) Explain the Geodetic Surveying ?

e) What are the Sources of errors in levelling ?

f) State the Procedures of setting Circular curve by Rankine's Method of tangential angle.

3 Long Questions :-

a) Two straight meet at an angle of intersection of 150° at a chainage of 1600 m. Taking radius of curve as 300m, calculate chainage of second tangent point.

b) Calculate latitude, departure and closing error for the following traverse and adjust using Bowditch's rule.

line	length(m)	WCB
AB	156.5	31° 40'
BC	178.2	152° 32'
CD	234.8	251° 18'
DA	302.6	356° 15'

c) State the characteristics of contours.

Survey - 1

4th sem, Civil engg :-

1 Short questions :-

a) What is Cadastral Survey ?

b) How will you adjust a chain if it is found to increase in length than standard length ?

c) Define base line and check line.

d) What is offset ? Name two different type of offsets.

e) What is reduced level ?

f) What is the length of Gunter's chain ?

g) Define well-Conditioned and ill-Conditioned triangle.

h) Define fore bearing and back bearing of a Survey line.

i) Draw the conventional symbols of church and railway crossing

j) State Simpson's rule ?

2 Answere the following questions :-

a) Describe briefly ranging across a high ground.

b) Explain the Procedures for setting up Plane table over a station.

c) What are the obstacles in Chaining ? Explain any one with neat sketch.

d) write down the difference between whole Circle bearing and reduced bearing.

e) Explain the steps of levelling a dumpy level over the ground using fourth foot screws.

f) Write five advantages and disadvantage of Plane table Survey ?

3 Long questions

a) Describe the Field Procedures of chain Survey.

b) The following bearings were observed in traversing with a Compass. At what Station do you Suspect local attraction? Connect the bearing.

Line	F.B	B.B
AB	44° 80'	226° 30'
BC	124° 30'	302° 15'
CD	181° 00'	1° 00'
DA	288° 30'	108° 45'

Calculate also these bearings if the declination was 1°30' E.

c) Explain any one method of adjusting closing errors.