

KADI SARVA VISHWAVIDYALAYA

B.E. (All Branches) Semester-I & II Examination, May'2015

Subject Code-CC-103

Date: 27/05/2015

Time: 10:30 am to 1:30 pm

Subject: Basic Civil Engineering

Total Marks: 70

Instructions:

- (1) Answer each section in separate answer sheet
- (2) Use of scientific calculator is permitted
- (3) All questions are Compulsory
- (4) Indicate Clearly, the options you attempt along with its respective questions number.
- (5) Use the last page of main supplementary for rough work

Section-I

Q-1 (All Compulsory)

- (A) Explain five branch of civil engineering in detail [5]
- (B) Explain reciprocal ranging (Indirect Ranging) with neat sketch. [5]
- (C) Explain the fundamental principles of surveying with neat sketch. [5]

OR

- (C) Explain Bowditch' rule for graphical method of closing error in a compass traverse. [5]

Q-2 Answer the following Questions

- (A) Define following terms: [5]
(1) Bench Mark , (2) Quadrant bearing, (3) Line of collimation,
(4) True bearing, (5) Declination
- (B) A distance of 2000 metres was measured by a 30 metre chain. Later on, it was detected that the chain was 0.1 metre too long. Another 500 metre (i.e. total 2500 metre) was measured & it was detected that the chain was .015 metre too long. If the length of the chain in the initial stage was quite correct, determine the exact length that was measured. [5]

OR

- (A) Draw sketch of typical wall section foundation of 20 cm & 30 cm thick wall. [5]
- (B) Write short note on Geographical Information System with neat sketch. [5]

Q-3 Answer the following Questions

- (A) Find the include angles for closed travse ABCDA & prove sum of all angles is $360^{\circ} 00'$ [5]

Line	F.B	B.B
AB	$45^{\circ} 00'$	$225^{\circ} 00'$
BC	$123^{\circ} 30'$	$303^{\circ} 30'$
CD	$181^{\circ} 00'$	$1^{\circ} 00'$
DA	$289^{\circ} 00'$	$109^{\circ} 00'$

- (B) Describe Hydrological cycle with sketch. [5]

OR

- (A) Enlist different types of Dams & discuss Gravity Dam in brief. [5]
- (B) Write short note on Traffic Control measures and devices. [5]

Section-II

Q-4 (All Compulsory)

- (A) Enlist Fundamental Principles for the planning of the residential building & explain any two. [5]
- (B) Discuss the role of transportation in national development. [5]
- (C) Explain the procedure to find the area of irregular figure by Planimeter. [5]

OR

- (C) The following observations were taken with dumpy level and four meter levelling staff. The instrument was shifted after 4th, 6th readings. The first reading was taken on a bench mark whose RL is 125.000 metre Prepare a page of level book and calculates RLs of all the points. The observations were taken at every 5 metre interval. Also find out the gradient between first and last point.
- Use rise and fall method.**

Observations are: 0.565, 1.250, 1.675, 3.695, 1.525, 2.345, 2.445, 0.555, 2.000

Q-5 Answer the following Questions

- (A) Explain two indirect methods of chaining on sloping ground. [5]
- (B) Draw detailed sketch of cross-section of stem of an exogenous tree. & write five uses of timber [5]

OR

- (A) Enlist classification of direct Levelling methods & explain following. [5]
- (1) Simple levelling,
(2) Check levelling.
- (B) Draw the layout of an Industrial building. [5]

Q-6 Answer the following Questions

- (A) Draw the contours of following objects with contour values. [5]
- (1) Valley line, (2) Pond, (3) Vertical Cliff, (4) Saddle. (5) Hill.
- (B) Differentiate between compass & theodolite. [5]

OR

- (A) Explain with sketches temporary adjustments of a dumpy level. [5]
- (B) Write short note on bricks. [5]

KADI SARVA VISHWAVIDYALAYA

B.E SEMESTER 1st EXAMINATION (DECEMBER /2015)

SUBJECT CODE: CC103 SUBJECT NAME: Basics Civil Engineering

DATE: 31st DECEMBER, 2015 TIME: 10.30 am to 1.30 pm TOTAL MARKS: 70

Instructions:

1. Answer each section in separate Answer Sheet.
2. Use of scientific Calculator is permitted.
3. All questions are compulsory.
4. Indicate **clearly**, the options you attempted along with its respective question number.
5. Use the last page of main supplementary for rough work.

Section - 1

Q1 [A] Explain the fundamental principles of surveying. 05

[B] Explain the role of civil engineer in the basic field of civil engineering 05

[C] Enlist the principles of building planning. Explain any 2 in brief. 05

OR

[C] Distinguish Between Plane surveying and Geodetic surveying 05

Q2 [A] Distinguish between prismatic compass and surveyor's compass. 05

[B] Define: 1) True meridian 2) Back bearing 3) Magnetic declination 4) Bench Mark 5) Whole circle bearing. 05

OR

[A] Give difference between Plan and Map. 05

[B] 1) Convert the following WCB into RB: 1) 190° 2) 270° 3) 315° 03

2) Convert the following bearing: 1) RB = S 50° E 2) N 25° W 02

Q3 [A] Write short note on Planimeter. 05

[B] The distance between two stations was measured with a 20.00 m chain and found to be 1200 m. The same distance was measured with a 30.00 m chain and to be 1195.40 m. If the 20.00 m chain was 5.00 cm too short, what was the error in the 30.00 m chain? 05

OR

[A] Give difference between load bearing and framed structure. 05

[B] The observed bearing of the traverse are as follows: Find out included angles and corrected angles: 05

Line	Fore Bearing	Back Bearing
AB	12°30'	192°30'
BC	95°00'	275°00'
CD	110°30'	290°30'
DE	160°00'	340°00'
EA	310°30'	130°00'

Section – 2

- Q4 [A] Explain hydrological cycle with neat sketch. 05
 [B] Give the classification of surveying. 05
 [C] Explain the key components and application of GIS. 05

OR

- [C] Define Contour Line. Explain the applications of Contour Map. 05
 Q5 [A] The following staff readings were taken on a uneven ground with a 4m leveling staff. Calculate reduced levels of all the points by Height of instrument method and apply usual checks. The instrument was shifted after 3rd, 6th, and 9th readings. The first reading was taken on BM of 100m. 05

1.20, 2.65, 3.40, 2.40, 1.95, 0.90, 1.70, 3.70, 2.50, 0.85, 1.70

- [B] Write short on Gravity Dam and Check dams. 05

OR

- [A] The following staff readings were taken on a uneven ground with a dumpy level and 4m leveling staff. Calculate reduced levels of all the points by Rise and Fall method and apply usual checks. The instrument was shifted after 3rd, 6th readings. The first reading was taken on BM of 240m. 05

2.665, 3.325, 2.905, 1.750, 0.980, 2.620, 1.585, 0.960, 0.425 m.

- [B] Give the advantages and disadvantages of waterways. 05

- Q6 [A] Calculate the interior angles and draw the traverse. 05

Line	Fore Bearings
AB	70°30'
BC	132°00'
CD	56°00'
DE	215°30'
EA	310°00'

[B] Enlist different types of cement. Discuss the uses of cement.

05

OR

[A] Discuss various types of construction materials used in civil engineering.

05

[B] What do you mean by building bye-laws? Explain built up area in detail.

05

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Kadi Sarva Vishwavidhyalaya

BE SEM – II

Basic Civil Engineering

Date: 29/05/2013 Wednesday

Max.marks : 70

Time : 10:30 P.M to 1:30 P.M

Instruction: (1) Answer each section in separate answer sheet.

- (2) Use of Scientific calculator is permitted.
- (3) Assume the data if it is required.

SECTION – I

Q.1 **Each question carries equal marks.** **(15)**

- (a) Explain Surveying? What are its objects and applications? Explain briefly its primary divisions.
- (b) Discuss key components of GIS.
- (c) Discuss role of civil engineers.

OR

- (c) Write down the Methods of scheduling Techniques .Explain any one in brief.

Q.2 **(10)**

- (a) Enlist the instruments which are used in chain surveying. Explain any three in brief.
- (b) The distance between two stations was measured with a 20.00 m chain and found to be 1200 m. The same distance was measured with a 30.00 m chain and found to be 1195.40 m. If the 20.00 m chain was 5.0 cm too short, what was the error in the 30.00 m chain?

OR

- (a) Define the term :
(1) Magnetic Meridian (2) True Meridian (3) Arbitrary Meridian
- (b) Following are the bearing of the closed traverse ABCDE. Calculate the include angles.

Line	F.B.of line
AB	$140^{\circ}30'$
BC	$80^{\circ}30'$
CD	$340^{\circ}00'$
DE	$290^{\circ}30'$
EA	$230^{\circ}30'$

Q.3 **(10)**

- (a) Write down the use of contour map.
- (b) Following consecutive reading were taken on a continuously sloping ground at 20 m interval during leveling work.
0.250, 0.570, 1.520, 2.540, 0.835, 1.350, 1.770, 2.345, 0.605, 1.270, 2.750.

The instrument was shifted after fourth and eighth reading. The first reading was taken on a B.M. with R.L. = 51.00. Calculates the R.L. of all points by any method .Apply usual checks.

OR

- (a) Differentiate between prismatic compass and surveyor's compass.
(b) Explain the application of Remote Sensing.

SECTION – II

Q.4 Each question carries equal marks. (15)

- (a) Write in detail type of loads acting on the building.

(b) Draw the neat sketch of Spread footing foundation for 30 cm thick wall.

(c) Enlist various material used in building construction and Explain types of special brick.

OR

- (b) Draw the plan of a Drawing room with size 5.2 m X 3.4 m and also write down the schedule of Door , Window and Ventilator.

Q.5 _____ (10)

- (a) Explain the term Precipitation, Infiltration and Transpiration.
(b) Discuss water conservation.

OR

- (a) Write down the properties of mild steel .
(b) What are the advantage of railway and roadway.

- (a) Explain the term Traffic Signal . Write down the advantage and disadvantage of signal.

(b) Differentiate between BOT and BOOT projects of highway.

OR

KADI SARVA VISHWAVIDHYALAYA

B.E.Semester : I / II

Subject code : CC 103

Date : 28.12.13

Subject Name : Basic Civil Engineering

Time :

Total Marks : 70

Instruction :

- (1) Answer each section in separate answer sheet.
- (2) Use of Scientific Calculator is permitted.
- (3) All questions are compulsory.
- (4) Indicate Clearly, the options you attempt along with its respective question number.
- (5) Use the last page of main supplementary of rough work.

Section – I

Q – 1 All Questions are Compulsory

(A) Define :

05

- (1) Line of Sight
- (2) Axis of Telescope
- (3) Magnetic Declination
- (4) Bench mark
- (5) Evapotranspiration

(B) Differentiate Plane Surveying and Geodetic Surveying.

05

(C) What is Ranging. Explain Reciprocal Ranging with sketch.

05

OR

(C) Explain Watershed Development in Detail.

05

Q – 2 (A) Describe Surveyor's Compass with sketch.

05

(B) Following bearings were observed in a closed traverse ABCDA.

05

Find the included angles and correct them if necessary.

Line	Fore Bearing	Back Bearing
AB	321° 30'	144° 00'
BC	209° 30'	27° 30'
CD	134° 15'	312° 45'
DA	54° 45'	235° 45'

OR

(A) List out different methods of Leveling. Explain Reciprocal leveling.

05

(B) Following consecutive readings were taken with a level and 5 m leveling staff on continuous sloping ground at a common interval of 20 metres : 0.375, 1.025, 1.825, 2.925, 3.740, 4.695, 0.635, 2.115, 3.220, 4.395. R.L. of first point was 210.125 m. Prepare a page of level book by using H.I. Method.

05

Q – 3 (A) Describe basic principles of Remote sensing.

05

(B) Explain Characteristics of Contours.

05

OR

(A) Explain Key components of GIS.

05

(B) What is closing error ? state Bowditch's Rule.

05

Section – II

- Q – 4** (A) Write short note on Precast Concrete by mentioning Manufacturing Process, Advantages and Disadvantages. 05
(B) Give different types of Cement. What is Ordinary Portland Cement. 05
(c) Enlist Principles of Planning and Explain Aspect and Prospect. 05
OR
(c) Describe different types of Loads acting on the Structure. 05
- Q – 5** (A) Draw general layout of an Industrial Building. 05
(B) What is Building Byelaws ? 05
OR
(A) Draw Section of wall through door and window. 05
(B) Differentiate Load Bearing structure and Framed Structure. 05
- Q – 6** (A) What is Hydrological cycle ? 05
(B) Write short note on Different types of Traffic signals. 05
OR
(A) What is B.O.T Project ? What is it's Necessity for Highway ? 05
(B) Explain Gravity dam with showing different forces acting on the dam. 05

----- All the Best -----

Kadi Sarva Vishwavidyalaya

BE Semester-I (CE/EC)
Subject : Basic Civil Engineering

Date : 3/1/13
Time: 3 Hrs.

Max. Marks: 70

Instructions: (1) Answer each section in separate Answer sheet.

(2) Use of Scientific calculator is permitted.

(3) Assume suitable data, if required.

Section-I

- Q.1** [A] Define : (1) Magnetic Declination (2) Parallax (3) Line of Collimation [05]
(4) Bench Mark (5) Hydrology
- [B] Enlist various branches of Civil Engineering. Explain Geotechnical Engineering [05]
in detail.
- [C] Give classification of Surveying. [05]

OR

- [C] List out different methods of chaining on sloping ground. What is Hypotenusal allowance ? [05]
- Q.2** [A] A steel tape was standardized as 30 m at 18°C temperature. A line was measured as 620.00 m with temperature during measurement as 32°C. Calculate the true distance of the chain. Co-efficient of expansion for steel = 0.000012 per degree rise of temperature. Assume suitable data if required. [05]
- [B] Differentiate Prismatic compass and Surveyor's compass. [05]

OR

- Q.2** [A] What is closing error ? How can we balance it by using bowditch method? [05]
- [B] The following bearings were taken in running a compass traverse [05]

Line	Fore Bearing	Back Bearing
AB	124° 30'	304° 30'
BC	68° 15'	246° 00'
CD	310° 30'	135° 15'
DA	200° 15'	17° 45'

At what stations do you suspect local attraction ? Find the correct bearings of the lines and also compute the included angles.

- Q.3** [A] Describe Hypsometry leveling. [05]
- [B] The following consecutive readings were taken with a level and 4 m leveling staff on continuously sloping ground at common interval of 20 m.
0.765, 1.555, 2.435, 3.125, 3.835, 0.445, 1.370, 2.155, 2.765, 3.545, 0.575,
1.115, 1.750, 2.865, 3.750
The R.L. of first point was 250.500 m. Make entries in a level book and apply check.

OR

- Q.3** [A] Explain Reciprocal leveling with sketches. [05]
[B] Write in brief about difficult situation in leveling or leveling problems. [05]

Section-II

- Q.4** [A] What is contour ? Give characteristics of contours with sketches. [05]
[B] Differentiate WCB System and QB System. [05]
[C] What are the objectives and key components of GIS. [05]

OR

- [C] Explain different types of cement used in construction. [05]

Q.5 [A] Write about properties of steel and brick. [05]

[B] Enlist different principles of planning. Explain Grouping, Roominess and Elegance. [05]

OR

- Q.5** [A] Draw layout of Industrial building consisting all required units with assumed data. [05]
[B] Differentiate load bearing structure and framed structure. [05]

Q.6 [A] Draw section of wall through window. Mention all the components in sketch. [05]
[B] Explain watershed development. [05]

OR

- Q.6** [A] Explain gravity dam with sketch indicating different forces acting on dam. [05]
[B] Explain BOT projects for highway. [05]

KADI SARVA VISHWAVIDYALAYA

B.E. Semester- I Examination, Dec '2014

Subject Code-CC-103

Date: 30/12/2014

Subject: Basic Civil Engineering

Time: 10:30 am to 1:30 pm

Total Marks: 70

Instructions:

- (1) Answer each section in separate answer sheet
- (2) Use of scientific calculator is permitted
- (3) All questions are Compulsory
- (4) Indicate **Clearly**, the options you attempt along with its respective questions number.
- (5) Use the last page of main supplementary for **rough work**

Section-I

- Q-1 (All Compulsory)**
- (A) Differentiate Geodetic surveying and Plane surveying. [5]
 - (B) Explain role of civil engineer in the basic fields of civil engineering. [5]
 - (C) Define remote sensing? Give the application of remote sensing. [5]

OR

- (C) Describe uses of GPS techniques. [5]

Q-2 Answer the following Questions

- (A) Explain temporary adjustment of prismatic compass. [5]
- (B) A line was measured with a steel tape which was exactly 30 m at a pull of 5 kg and the measured length was 230.05 meter. The pull applied during measurements was 6 kg and the tape was uniformly supported, find the true length of the line if the cross sectional area of tape was 0.03 cm^2 and the modulus of elasticity = $2.1 \times 10^6 \text{ kg/cm}^2$. [5]

OR

- (A) Define :
True meridian, Line of collimation, Levelling, Fore bearing, Back bearing. [5]
- (B) The following are the bearings of closed traverse .Find the included angles and draw the traverse. [5]

Line	F.B.	B.B.
AB	N $50^{\circ} 00' E$	S $50^{\circ} 00' W$
BC	S $60^{\circ} 00' E$	N $60^{\circ} 00' W$
CD	S $15^{\circ} 00' W$	N $15^{\circ} 00' E$
DA	N $70^{\circ} 30' W$	S $70^{\circ} 30' E$

Q-3 Answer the following Questions

- (A) Explain characteristics of contours with sketch. [5]

- (B) Following consecutive readings were taken with a dumpy level. [5]
1.155, 1.565, 2.695, 3.580, 2.085, 2.895, 4.125

The level was shifted after the 4th reading. The first reading was taken on the bench mark of R.L. 50.00 m. Enter the reading in the level book and Calculate the reduced levels of all points. Apply necessary checks. Use Rise and fall method.

OR

- (A) Differentiate between prismatic compass and surveyor's compass. [5]
(B) Explain Open cross staff. [5]

Section-II

Q-4 (All Compulsory)

- (A) Write in details classification of building based upon occupancy. [5]
(B) Draw neat sketch of 20 cm thick wall spread footing foundation. [5]
(C) Write in brief requirement of a good quality of bricks. [5]

OR

- (C) Draw a cross section of a tree stem and explain its various components. [5]

Q-5 Answer the following Questions

- (A) Explain Watershed Development. [5]
(B) Discuss requirement of water. [5]

OR

- (A) Draw the sketch of building components. [5]
(B) Sketch and explain importance of maintaining hydrological cycle of water. [5]

Q-6 Answer the following Questions

- (A) Enlist traffic controls devices and explain any two of them. [5]
(B) Draw cross section of highway showing all parts and explain function of any two. [5]

OR

- (A) Write the advantage and disadvantage of roadway. [5]
(B) Write down the full form.....(1) CWC (2) DPC (3) RWG (4) BBLC (5) FC [5]

*** All the Best***