

G 1647

(Pages : 2)

Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

First and Second Semester

EN 010 106—BASIC CIVIL ENGINEERING

(New Scheme—2010 Admission onwards)

[Improvement/Supplementary]

{Common for all Branches}

Maximum : 100 Marks

Time : Three Hours

Part A

Answer all questions.

Each question carries 3 marks.

1. List out various fields of Civil Engineering.
2. Explain the term curing.
3. Write notes on machine foundation.
4. List out principles of surveying.
5. Write notes on ~~random rubble masonry~~.



(5 × 3 = 15 marks)

Part B

Answer all questions.

Each question carries 5 marks.

6. Explain about types of cement and its uses.
7. Explain about preparation of cement mortar.
8. Write notes on Random rubble masonry.
9. Explain briefly about bearing of survey lines.
10. Explain general provisions regarding building requirements.

(5 × 5 = 25 marks)

Part C

Answer all questions.

Each full question carries 12 marks.

11. What is meant by seasoning of timber ? Explain about methods of seasoning.

Or

12. Explain (i) types of steel for reinforcement bars ; (ii) requirements of good aggregates.

(6 + 6 = 12 marks)

Turn over

13. Explain (i) Workability ; (ii) Water cement ratio ; and (iii) Grades of concrete. (3 × 4 = 12 marks)

Or

14. Explain reinforcement details of simply supported beams.

15. Explain about isolated and combined footing with neat sketches.

Or

16. Explain English bond in brick masonry. Draw sketches to show construction of one brick thick wall in English bond.

17. Explain :

(i) Total station ; (ii) Basic principles of remote sensing.

(2 × 6 = 12 marks)

Or

18. The following readings are taken on a levelling instrument with station A as a benchmark with RL 100.00 m. The instrument is shifted after 4th and 7th reading :

Readings are 1.200, 0.980, 1.035, 0.650, 1.100, 0.950, 0.700, 1.400, 1.000 and 0.880. Book these readings in field book and find out RL using HI method.

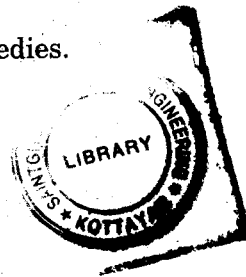
19. Explain basic concepts of (i) Intelligent buildings ; (ii) Green buildings ; and (iii) Kerala Municipal building rules.

(3 + 3 + 6 = 12 marks)

Or

20. Briefly explain Road accidents, causes and remedies.

[5 × 12 = 60 marks]



G 1638

(Pages : 2)

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B.TECH. DEGREE EXAMINATION, MAY 2016

First and Second Semester

BASIC CIVIL ENGINEERING

(Common for all branches)

(Old Scheme—Prior to 2010 Admissions)

[Supplementary/Mercy Chance]

Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. List the different types of Portland cement.
2. Enumerate the steps involved in the manufacture of concrete.
3. State the advantages of natural seasoning.
4. Sketch the typical cross-section of a roof truss and label its parts.
5. Differentiate between shallow and deep foundation.
6. List the different types of walls.
7. Define surveying. Which are the primary divisions of surveying ?
8. What is meant by Mean sea level ?
9. Explain coverage and floor area ratio.
10. How are roads classified in Kerala ?



(10 × 4 = 40 marks)

Part B

Answer all questions.

Each full question carries 12 marks.

11. (a) What are the different types of steel used for reinforcement in concrete ? (6 marks)
- (b) Explain with sketches the different structural steel sections. (6 marks)

Or

12. (a) Explain w/c ratio and discuss its importance in concrete works. (6 marks)
- (b) Explain curing of concrete. (6 marks)

Turn over

13. Explain various types of bricks available. What are the tests available to access the strength of bricks in field and in the lab ?

Or

14. (a) Explain common defects and decay of timber. (6 marks)
(b) Explain any *five* methods of preserving timber. (6 marks)

15. Explain with sketches the following foundations, and where do you recommend each type :

- (i) Pile foundation. (ii) Raft foundation.
(iii) Well foundation. (iv) Machine foundation.

Or

16. What do you mean by bonding in brick work ? Explain the types of bond used in brick work.
17. What are the instruments used in chain surveying ? Explain each of them with neat sketch.

Or

18. The following are the readings taken with a dumpy level and 4.0 m. staff on a continuously sloping ground. Rule out a page of level field book and enter the readings. Also calculate the RL's of each staff station readings 0.500, 0.675, 1.250, 3.500, 1.200, 1.850, 2.300, 3.350, 0.900, 1.900, 2.350.

19. A residential plot is rectangular ABCD. AB = 22 m., BC = 82 m. A panchayath road in AB side and NH in BC, other two sides are residential plots. Locate the position of a residential building having a plinth area about 90 m.², assuming any other data required, prepare the site plan.

Or

20. With neat sketch, explain the working of septic tank. Explain the design aspects.

(5 × 12 = 60 marks)

