

**B.TECH. DEGREE EXAMINATION, MAY 2014****First and Second Semester****EN 010 106—BASIC CIVIL ENGINEERING**

(New Scheme—2010 Admission onwards)

[Regular/Improvement/Supplementary]

[Common for all branches]

Time : Three Hours

Maximum : 100 Marks

**Part A***Answer all questions.**Each question carries 3 marks.*

1. What are the various grades of ordinary portland cement ?
2. Explain water-cement ratio of concrete.
3. Define bearing capacity of soil.
4. What is ranging ?
5. Define floor area ratio.

(5 × 3 = 15 marks)

**Part B***Answer all questions.**Each question carries 5 marks.*

6. What are the constituents of good brick earth ?
7. What are the functions of mortar in building work ?
8. What is combined footing ? Draw a sketch of combined footing.
9. What do you mean by GPS and how can it be used in surveying ?
10. What are the important features to be shown in a site plan ?

(5 × 5 = 25 marks)

**Part C***Answer all questions.**Each question carries 12 marks.*

11. What is meant by seasoning of timber ? Explain the objectives and methods of seasoning.

*Or*

12. What are the sources of sand ? Explain. What are the properties of good sand.

**Turn over**

13. Sketch the reinforcement details of a one way and two way slab.

Or

14. Define Workability. List the various methods of workability. Explain any *one* method of finding workability.
15. Explain English bond in brick masonry. Draw sketches to show the construction of a one brick thick wall in English bond.

Or

16. What are the factors to be considered for the selection of material for stone masonry? Explain with neat sketches Random Rubble masonry.
17. Compute the levels from the levelling book using Height of Instrument Method (table below):

Station	BS	IS	FS	HI	RL	Remarks
A	0.665				100.00	BM
B		0.825				
C		2.540				
D	3.200		0.385			CP (change point)
E	1.565		1.400			CP (change point)
F		2.000				
G			2.450			

Or

18. What do you mean by bearing of a line? How bearings are expressed? Explain how included angles in a closed compass traverse is determined and checked?
19. With reference to building rules, explain the general provisions regarding site and building requirements.

Or

20. Explain the method of disposal of waste water through septic tank and soak pit.

(5 × 12 = 60 marks)