Total No. of printed pages =2

SUBJECT CODE = CEE022104

Roll No. of candidate | | | | | | | | | | |

2017

End Semester B. Tech Examination

1st Semester

BASIC CIVIL ENGINEERING

Full Marks- 70 Pass Marks- 21 Time- 3 hours

The figures in the margin indicate full marks.

PART A

Q.1. Answer the following questions. 1x16=16

a) What is the compressive strength of good bricks?
b) Give an example of igneous rock.
c) What is concrete?
d) Define hydrology.
e) What is Poisson's ratio?
f) State Hooke's law of elasticity.
g) What is a beam?
h) Define modulus of rigidity.
i) Define surveying.
j) What is a ranging rod?
k) Give a use of offset rod?
l) Who is a leader in chaining process?
m) Write the full form of IRC.
n) Where is the Headquarter of IRC located?
o) Write a function of camber.
p) What is the minimum with of shoulder as per IRC?

.

PART B

Q.2. Answer the following questions. 2x7=14

a) What is a brick? Explain different types of bricks.
b) What is stress? Explain different types of stresses.

PART C

Q.3. Explain all the branches of civil engineering. 10

Or

Explain the geological, chemical and structural classification of rocks. 10

Q.4. a) A rod 150 cm long and diameter 2 cm is subjected to an axial pull of 20 KN. If the modulus of elasticity of the material of the rod is $2x10^5 N/mm^2$; determine:

i) The stress
ii) The strain and
iii) The elongation of the rod

b) The safe stress, for a hollow steel column which carries an axial load of $2.1x\ 10^2$ KN is 125 MN/m^2. If the external diameter of the column is 30 cm, determine the internal diameter. 5+5=10

Or

Explain different types of beams and supports. 10

Q.5. What are the principles of surveying? Explain them. 10

Or

Explain different types of errors encountered in the process of chaining. 10

Q.6. Draw a neat diagram of cross section of a road and label each part correctly. Explain each part and their functions briefly. 10

Or

Classify the different types of roads as per location and function criteria. Explain them briefly. 10