



# TEERTHANKER MAHAVEER UNIVERSITY

(Established under Govt. of U. P. Act No. 30, 2008)

Delhi Road, Moradabad (U.P.)

## SAMPLE QUESTION PAPER FOR RESEARCH APTITUDE TEST IN CIVIL ENGINEERING

**Max. Marks: 100**

**Time: 2.00 Hrs**

**Note:**

1. The question paper is divided into two parts viz. Part-A and Part-B, carrying 50 marks each.
2. **Part-A** consists of 50 multiple choice questions carrying one mark each. All questions are compulsory. There shall be no negative marking. The answers are to be marked on the OMR sheet with black pencil.
3. **Part-B** consists of 8 descriptive type questions, out of which any 5 questions are to be answered. Each question shall carry 10 marks. A candidate is expected to limit his answer in about 200 words for each question.

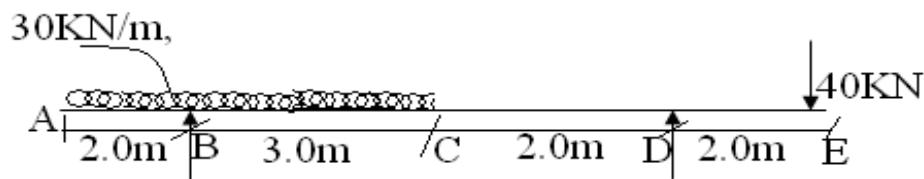
### **Part (A)**

**Total Marks: 50 X 1 = 50**

- Q1. Who said that members of the same species are not alike?
- (a) Darwin
  - (b) Herbert Spencer
  - (c) Best
  - (d) Good
- Q2. A statistical measure based upon the entire population is called parameter while measure based upon a sample is known as
- (a) Sample parameter
  - (b) Inference
  - (c) Statistic
  - (d) None of these
- Q3. Generalized conclusion on the basis of a sample is technically known as
- (a) Statistical inference of external validity of the research
  - (b) Data analysis and interpretation
  - (c) Parameter inference
  - (d) All of the above
- Q4. A researcher selects a probability sample of 100 out of the total population. It is
- (a) A cluster sample
  - (b) A random sample
  - (c) A stratified sample
  - (d) A systematic sample
- Q5. A researcher divides the population into Postgraduates, graduates and 10+2 students and using the random digit table he selects some of them from each. This is technically called
- (a) stratified sampling
  - (b) stratified random sampling
  - (c) representative sampling
  - (d) none of these

**Part (B)**  
**Total Marks: 5 X 10 = 50**

- Q1. Write various assumptions in limit state design of RCC structure.
- Q2. Derive the expression for deflection of a closed coiled helical spring.
- Q3. Name various types of foundations and describe them in brief.
- Q4. Describe run off and factors affecting it.
- Q5. Describe the design criteria for design of cantilever retaining for wall.
- Q6. Draw SFD and BMD for following beam



- Q7. Describe the general principles of pre-stressing.
- Q8. Write notes on any two of the following:
- (a) Workability of concrete
  - (b) Concrete admixtures
  - (c) Combined footings.

**Caution: Please note that the questions appearing above in this sample paper are only for the guidance of the candidates.**