

**Basics of Civil Engineering**

P. Pages : 2 Time

**NKT/KS/17/7200**

: Two Hours

\* 0 2 3 4 \*

Max. Marks : 40

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- Notes :
1. Solve Question 1 OR Questions No. 2.
  2. Solve Question 3 OR Questions No. 4.
  3. Solve Question 5 OR Questions No. 6.
  4. Solve Question 7 OR Questions No. 8.
  7. Due credit will be given to neatness and adequate dimensions.
  8. Assume suitable data whenever necessary.
  9. Illustrate your answers whenever necessary with the help of neat sketches.
  10. Use of non programmable calculator is permitted.

1. a) Explain in brief principle of planning of Building? **5**
- b) What do you mean by Load Bearing structure & framed structure? Differentiate it. **5**

**OR**

2. a) Define Eco-friendly materials. What are the properties of Eco-friendly materials & Enlist Eco-friendly materials. **6**
- b) Determine the carpet Area per floor of a two storeyed building from the following data. **4**
  - i) Plot Area = 500 M<sup>2</sup>
  - ii) FSI allowed = 1.0
  - iii) Ratio of carpet Area to Built up area = 0.7Assume Equal Built up Area per floor.

3. a) Draw cross-section of "National Highway", & Explain classification of roads. **6**
- b) What are the Causes of Accident ON Roads. **4**

**OR**

4. a) Explain various types of surveying maps & their uses? **4**
- b) What are the different modern instrument used in surveying? Explain Advantages of any two instruments. **6**
5. a) Define Per Capita Demand. Find quantity of water available on Terrace of Area 100 M<sup>2</sup>. Avg. Depth of Rain water is 600 mm. Assume losses 50%. **5**
- b) Write detailed notes on Water shed management. **5**

**OR**

6. a) Explain different methods of disposal of solid waste? **5**
- b) Draw flow chart of water treatment plant & Explain function of each unit operation. **5**
7. a) What do you mean by sustainable development & Explain role of civil engineer in sustainable development. **5**
- b) State & explain various Equipment used in compaction **5**

**OR**

- 8 a) Write short notes on **any three**. **10**
- i) Green Building
- ii) Telemetry
- iii) SCADA system
- iv) LEED certification.

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