

B.E. Civil Engineering (Model Curriculum) Semester-VI  
**OEC-CE602B - Metro System and Engineering**

P. Pages : 1

Time : Three Hours



**GUG/W/23/13732**

Max. Marks : 80

- Notes :
1. All questions are compulsory.
  2. Due credit will be given to neatness and adequate dimensions.
  3. Assume suitable data wherever necessary.
  4. Diagrams and Chemical equation should be given wherever necessary.
  5. Illustrate your answers wherever necessary with the help of neat sketches.

1. a) Give various impacts of metro rail system. **8**  
b) Give an overview of world metro system. **8**

**OR**

2. a) Why metro system is needed in India. **8**  
b) Write short note on standardization of metros. **8**

3. a) Differentiate between top down and bottom up method for construction of underground metro stations. **8**  
b) What do you meant by traffic integration? Give an approach adopted in planning traffic integration facilities. **8**

**OR**

4. a) Write about the environmental and social safeguards in metros. **8**  
b) Write short note on multi-model transfer and pedestrian facilities. **4**  
c) Write short note on Depots in metro. **4**

5. a) How Automatic fare collection works in Indian metros. **8**  
b) Write short note on operation control centre. **8**

**OR**

6. a) Write short note on signalling system in metros. **8**  
b) Write short note on Platform screen doors. **8**

7. a) What are various features of Rolling stock system. **8**  
b) Write short note on ventilation system in tunnel. **8**

**OR**

8. a) How fire control system works in Indian metros? **8**  
b) What do you meant by lifts and escalators in metros? **8**

9. a) What are the green initiatives adopted in metro rail system? **8**  
b) Write short note on OHE (overhead equipment in metros). **8**

**OR**

10. a) Write short note on carbon credits and clean air mechanics in relation with metros. **8**  
b) What is metro traction? Write about SCADA system in metros. **8**

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