562

Register No.:

April 2019

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.

(4) Use of BIS 1893(Part 2)– 2002 and BIS 13920 – 1993 are permitted.]

PART – A

1. What is the objective of earthquake engineering?
2. Define: Magnitude of earthquake. Name the scale used to measure it.
3. Mention any two causes for seismic damage of buildings.
4. What are the dual structures?
5. What is meant by earthquake resistant building?
6. What is ductility?
7. Explain the term retrofitting.
8. What are the effects of path of travel of earthquake wave on damage?

PART – B

9. Define: Fault line, focus.
10. What is meant by confinement of concrete?
11. Explain the term shear failure in columns.
12. Explain the term twisting of buildings.
13. List the various horizontal bands used to resist seismic forces in masonry.
14. List out the different dampers used for seismic vibration control.

[Turn over.....

15. Mention any five repair materials used in buildings for seismic strengthening.

16. Write about plate tectonics.

PART – C

17. (a) Explain in detail about (i)Causes of earthquake (ii)Prediction of earthquake risk.

(Or)

(b) Explain about (i)Seismo tectonics of India (ii)Foreshocks and aftershocks.

18. (a) Explain about effects of inertia and seismic effects of ground shaking on structures.

(Or)

(b) Explain about soft storey failure, pounding of adjacent buildings and irregularity.

19. (a) Explain how stiffness, symmetry, methods of constructions and ductility of structure affect their behaviour.

(Or)

(b) Explain about the behaviour of RCC structures under earthquake loads.

20. (a) Discuss how RCC members are provided sufficient ductility.

(Or)

(b) Explain about horizontal bands.

21. (a) Explain the terms: Evaluation, repair, restoration, structural damage and feasibility study.

(Or)

(b) Discuss any two methods of seismic retrofitting.
