CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)
M.TECH III Semester Supplementary Examinations August-2023
Course Name: EARTHQUAKE RESISTANCE DESIGN OF BUILDINGS
(Structural Engineering)

Date: 17.08.2023 FN   Time: 3 hours   Max.Marks: 70

(Note: Assume suitable data if necessary)
PART-A
Answer all FIVE questions (Compulsory)
Each question carries FOUR marks.   5x4=20M

1. Define faults. Also show how they are associated with earthquake.   4M
2. Classify the confined and unconfined concrete in detail.   4M
3. Illustrate strengthening of masonry wall.   4M
4. Describe the concept of seismic based isolation   4M
5. Explain assessment of ductility   4M

PART-B
Answer the following. Each question carries TEN Marks.   5x10=50M

6. A). Describe plate tectonic theory with a neat sketch.   10M

OR

6. B). Explain about seismic instrumentation and monitoring.   10M

7. A). Explain the significance of ductility on the behavior of structures during an earthquake.   10M

OR

7. B). Analyze the limitations of equivalent lateral force and response spectrum analysis procedures.   10M

8. A). Design a rectangular beam for 8m span to support a DL of 10kN/m and a LL of 12kN/m inclusive of its own weight. Moment due to earthquake load is 1000kNm and shear force is 80kN. Use M20 grade concrete and Fe415 steel.   10M

OR

8. B). Experiment about the behaviour of infill walls.   10M

9. A). Illustrate the failure mechanism on non-structures   10M

OR

9. B). Choose the various ways of prevention of non-structural damage.   10M

10. A). Draw the ductile detailing provisions of an RC beam as per the IS code of practice and also examine the salient features.   10M

OR

10. B). Construct the step by step procedure for capacity based design of RC buildings.   10M

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