

13084 : Introduction to Earthquake and Retrofitting of Structures : 1 SFSE 1

P. Pages : 1

Time : Three Hours



AW - 3613

Max. Marks : 80

- Notes :
1. Answer **three** question from section "A" and **three** questions from section "B"
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Illustrate your answer necessary with the help of neat sketches.
 5. Use of pen Blue/Black ink/refill only for writing the answer book.

SECTION – A

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|----|----|---|---|
| 1. | a) | Explain in detail the interior of the earth with the help of diagram. | 7 |
| | b) | State and explain various factors affecting ground motion. | 6 |
| 2. | a) | Explain seismicity of the world and tectonic feature of India. | 7 |
| | b) | Explain Soil-structure interaction effects. | 6 |
| 3. | a) | State guidelines for achieving efficient seismic resisting planning. | 7 |
| | b) | Explain the response of a structure to earthquake motion. | 6 |
| 4. | a) | Explain, why staircase should be separated from rest of the building. | 7 |
| | b) | Explain the effect of opening on masonry structure during earthquake. | 7 |
| 5. | a) | Explain the effect of twisting on the components of building. | 7 |
| | b) | Explain in details the importance of flexible structure. | 6 |

SECTION – B

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|-----|----|---|---|
| 6. | a) | What are the goals of seismic retrofitting of structure? | 7 |
| | b) | Explain concept of earthquake resistant design. | 6 |
| 7. | a) | Explain principles of repairs and retrofitting. | 7 |
| | b) | What are the criteria to increase the seismic capacity of an existing seismically deficient building. | 6 |
| 8. | a) | Explain the various normal techniques of retrofitting used for RC buildings. | 7 |
| | b) | Explain seismic evaluation procedure for RC building. | 7 |
| 9. | a) | Explain performance based approach. | 7 |
| | b) | Explain capacity demand method in details. | 6 |
| 10. | a) | Explain the base isolation system with neat sketches. | 7 |
| | b) | What are the limitation of retrofitting technique regarding adding of shear wall in seismic deficient building and by which technique of retrofitting these can be minimized. | 6 |
