

Roll No. ....

120762/30762

### **Sub.: Earthquake Resistant Building Construction**

M.M. : 100

## SECTION-A

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Fundamental period of 15 storey building is \_\_\_\_ second. (CO1)
- a) 0.4                                  b) 1.0
- c) 2.0                                  d) 4.0
- Q.2 The earthquake in which focal depth 71 km to 300 km is known as (CO1)
- a) Deep erthquake
- b) Shallow earthqueke
- c) Intermediate earthquake
- d) None of these
- Q.3 IS 1893 refers to \_\_\_\_\_. (CO2)
- a) Earthquake resistant design of structures
- b) Ductile detailing of RCC structure
- c) Hand book on codes for earthquake engg
- d) All of the above
- Q.4 Reentrant cracks on parapets is a case of \_\_\_\_\_ failure. (CO2)
- a) Out of plane                      b) In plane
- c) Shear failure                      d) All of the above

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- Q.5 The wall design to resist lateral force acting in its own plane. (CO3)  
a) Bearing wall                      b) Retaining wall  
c) Shear wall                      d) Breast wall
- Q.6 Haryana have been placed in the zone number. (CO4)  
a) V zone                      b) IV zone  
c) III zone                      d) II zone
- Q.7 The process of increasing seismic resistance of damage building (CO5)  
a) Repairing                      b) Restoration  
c) Retrofitting                      d) All of the above
- Q.8 Non conventional Methods of retrofitting for RCC Building are (CO5)  
a) Seismic base isolation  
b) Shotcrete  
c) Casing  
d) All of the above
- Q.9 Horizontal bands are known as \_\_\_\_\_ (CO7)  
a) Lintel band                      b) Roof band  
c) Plinth band                      d) All of the above
- Q.10 The persons who are involved in rescue operations are called \_\_\_\_\_. (CO7)  
a) Evacuation worker                      b) Mitigation  
c) Rescue Worker                      d) All of the above

## SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Focus is also known as \_\_\_\_\_ (CO1)  
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- Q.12 The earthquake size is defined in terms of \_\_\_\_ (CO1)
- Q.13 The masonry construction is also known as \_\_\_\_ (CO2)
- Q.14 Non structural component of a building are \_\_\_\_ (CO3)
- Q.15 IS 13920 refers to \_\_\_\_ (CO4)
- Q.16 FRP Stands for \_\_\_\_ (CO5)
- Q.17 Seismic retrofitting stands for increasing. (CO5)
- Q.18 The building whose fundamental period is less than 0.3 second is called (CO6)
- Q.19 Most important phase in disaster management is called as \_\_\_\_\_. (CO7)
- Q.20 Zone V have \_\_\_\_ seismic intensity. (CO7)

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Write any five compression between magnitude and intensity. (CO1)
- Q.22 Explain natural causes of earthquake. (CO1)
- Q.23 Enlist any five characteristics of secondary waves. (CO1)
- Q.24 What precautions should be observed while designing earthquake resistance building? (CO2)
- Q.25 Enlist any five characteristics of In-plane failure. (CO3)
- Q.26 Explain out of plan failure with their causes. (CO3)
- Q.27 Write about special construction feature contained in IS 4236. (CO4)

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- Q.28 Describe the general specification of IS 13920: 1993. (CO4)
- Q.29 Explain the objectives of strengthening for structure. (CO5)
- Q.30 Enlist any five need of retrofitting. (CO5)
- Q.31 What are horizontal bands in masonry buildings. (CO6)
- Q.32 Explain the Non Conventional Methods of retrofitting used for RC building. (CO6)
- Q.33 Write short note on disaster management? (CO7)
- Q.34 Enlist the role of rescue worker during a disaster. (CO7)
- Q.35 Write a short note on seismograph. (CO1)

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain surface waves with their types and characteristics?
- Q.37 Discuss in brief the two modern techniques used in the construction of the earthquake resistant buildings. (CO3)
- Q.38 Explain Rescue Operation with precautions / Safety. (CO7)

**Note:** Course Outcome (CO) mentioned in the question paper is for official purpose only.

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