

No. of Printed Pages : 4 180762/170762/
Roll No. 120762/30762

**6th Sem / Civil, Brick Tech. (Elective), Constr. Mgmt.
Civil Engg. (Spl Highway Engg.)
Sub.: Earthquake Resistant Building Construction**

Time : 3Hrs. 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 earthquake
b) Shallow earthquake
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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