Manmohan Technical University
Office of the Controller of Examinations
Exam Year: 2081, Mangsir (Model Question)

Exam Roll: ……
Exam Roll in words: ……

School: SOE	Level: BE	Invigilator's Sign: ……
Program: BCE	Year/Part: III/I	Superintendent's Sign: ……
Subject: Design of Masonry Structure(EG606CE)		Code No. ……

i. Answers should be given by filling the Multiple-Choice Questions' Answer Sheet.
ii. The main answer sheet can be used for rough work.

Code No. ____

GROUP A *(Multiple-Choice Questions)* | **[10x1=10]** | **Time: 20 Minutes**

1. The mode of failure of a very short masonry member having h/t ratio of less than 4 is by?
   a. shear
   b. vertical tensile splitting
   c. buckling
   d. any of the above

2. Which of the below should be avoided in brick masonry?
   a. Horizontal joints
   b. Queen closer
   c. Brick bat
   d. Vertical joints

3. Which of the following relation is correct?
   a. Design Strength = Ultimate strength / Partial factor of safety
   b. Design Strength = Ultimate strength + Partial factor of safety
   c. Design Strength = Ultimate strength * Partial factor of safety
   d. Design Strength = Ultimate strength – Partial factor of safety

4. Direct load caring capacity of a brick masonry wall standing freely as against when it supports RC slab will be
   a. More
   b. Less
   c. The same in both the case
   d. 100%

5. Which of the following factors is included in the limit state of serviceability?
   a. Brittle facture
   b. Fracture due to fatigue
   c. Failure by excessive deformation
   d. Deformation and deflection adversely affecting appearance or effective use of structure

6. The depth of the focus from the epicentre is known as
   a. Shock depth
   b. Epicentre depth
   c. Focal depth
   d. Earthquake depth

7. What is the term given to the maximum earthquake ground motion that is expected to occur once during the design life of the structure?
   a. Maximum Credible Earthquake (MCE)
   b. Maximum Intensity Earthquake (MIE)
   c. Design Basis Earthquake (DBE)
   d. Design Mean Earthquake (DME)

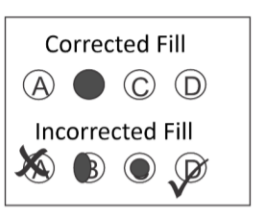
8. Which of the following is a smooth response spectrum that specifies the level of seismic resistance required for design?
   a. The time history curve
   b. The design spectrum
   c. The analysis spectrum
   d. The attenuation curve

9. Which is of the following isn't non-destructive testing in masonry?
   a. Diagonal shear test
   b. Push shear test
   c. Flat jack test
   d. Electric wave tomograph

10. Which is of the following isn't non-destructive testing in masonry?
    a. Diagonal shear test
    b. Push shear test
    c. Flat jack test
    d. Electric wave tomography

Multiple Choice Questions' Answer Sheet

Marks Secured: _____
In Words: _____
Examiner's Sign: _____ Date: _____
Scrutinizer's Marks: _____
In Words: _____
Scrutinizer's Sign: _____ Date: _____



1.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		6.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
2.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		7.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
3.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		8.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
4.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		9.	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5.	Ⓐ	Ⓑ	Ⓒ	Ⓓ		10.	Ⓐ	Ⓑ	Ⓒ	Ⓓ

Manmohan Technical University
Office of the Controller of Examinations
Exam Year: 2081, , Mangsir (Model Question)

School: SOE	Level: BE	Time: 3 Hours
Program: BCE	Year/Part: III/I	Full Marks: 50
Subject: Design of Masonry Structure(EG606CE)		

- ✓ *Candidates are required to give their answers in their own words as far as practicable.*
- ✓ *The figures in the margin indicate **Full Marks**.*
- ✓ *Assume suitable data if necessary*.

GROUP A *(Multiple-Choice Questions in separate paper)* **[10×1=10]**

GROUP B ***(****Short Answer Questions - **Attempt Any Eight)*** **[8×2=16]**

1. What are the types of masonry structure? Explain
2. What are the desirable properties of masonry mortar used in the construction?
3. What are the common types of bonds used in masonry construction?
4. Differentiate between working stress and limit state of design.
5. What are the failure modes in the masonry structures under lateral loads?
6. Why should masonry buildings have simple structural configuration?
7. Describe linear dynamic analysis method.
8. Explain the procedure of Flat jack test.
9. Why is reinforcement required in masonry structure? Explain.

GROUP C ***(****Long Answer Questions - **Attempt All Questions)*** **[6×4=24]**

10. Define Masonry and explain briefly about masonry units. [4]
11. What are the major structural components in masonry structure? Describe that how those elements plays a role to resist or reduce the gravity as well as seismic force?
12. Design of interior wall of a two storeyed wall carrying concrete slab with a storey height 3m. the wall is stiffened by 110 mm thick intersecting walls at 3600 c/c also the wall has a door opening of size 900 * 2000 mm at a distance of 230mm from one of the intersecting walls. Assume loading as follows Roof loading = 18 kN/m ,Floor loading = 14 kN/m. [4]
13. Describe importance of masonry structures in modern era. Also list the structural limitations of masonry structure. [4]
14. Determine the lateral forces on two-storey un reinforced brick masonry building located at Kathmandu. [4]

    Building data , plan size= 20m *20m

    Total height of building=6m(each storey=3m)

    Wt. of roof=2.5kN/m2, Wt. of Wall=5kN/m2,live load on roof=0, live load on floors=1kN/m2

    Soil =Type II (medium soil)
15. Explain the procedure for the repair and retrofitting of masonry building. [4]

[4]

∞∞ ***The End*** ∞∞