

KATHMANDU UNIVERSITY  
End Semester Examination  
February/March, 2018

Marks Scored:

Level : B.E.

Year : IV

Course : CIEG 409

Semester: I

Exam Roll No.:

Time: 30 mins.

F.M. : 10

Registration No:

Date : MAR 18 2018

SECTION "A"

[20 Q.×0.5=10 marks]

Select the most appropriate answer.

1. When two or more footings are connected by a beam, it is called:  
a) Beam footing      b) combined footing      c) strap footing      d) mat footing
2. The type of foundation most suitable for bridge is:  
a) Well foundation      c) Raft Foundation  
b) Pile foundation      d) Strap foundation
3. For DPC at plinth level, the commonly adopted flexible material is:  
a) Bitumen Sheeting      c) mastic asphalt  
b) Plastic sheeting      d) Cement Concrete
4. The construction of a temporary structure required to support unsafe structure, is called:  
a) Underpinning      b) Scaffolding      c) Shoring      d) Jacking
5. Frog is defined as  
a) Depression on the top face of the brick  
b) Topmost course of plinth  
c) Brick whose one end is cut for the full width  
d) Brick used for the corner of the wall
6. In stairs, the vertical portion of a step providing support to thread, is:  
a) riser      b) flier      c) soffit      d) pitch
7. In designing a stair, the sum of thread and twice the riser (in cm) should be equal to  
a) 40      b) 50      c) 60      d) 70
8. For ordinary Portland cement, the initial setting time begins from:  
a) 30 mins      b) 1 hour      c) 5 hrs.      d) 24 hrs
9. A fine aggregates is one whose particals are of size:  
a) 4.75 mm      b) Below 4.75 mm      c) 6.75 mm      d) Below 6.75 mm
10. The horizontal members of wood or steel used to support the common rafter of a sloping roof, are called:  
a) Purlin      b) Cleates      c) Hip rafter      d) Valley rafters
11. Timber flooring with mud as filling material is:  
a) Rigid Floor      c) Semi- rigid floor  
b) Flexible floor      d) None of the above

12. The process of covering rough surface of walls, column, ceiling and other components of building with a thin coat of mortar to get smooth durable surface is called:  
a) pointing                      b) punning                      c) cladding                      d) plastering
13. Toppling of wall is caused mainly by:  
a) In plane failure                      c) Out of plane failure  
b) Double diagonal crack failure                      d) None of these above
14. If a building experiences differential settlement then permissible value of tilting of building is \_\_\_\_\_ % of total building height.  
a) 4                      b) 6                      c) 0.6                      d) 0.4
15. Hearing loudness of Rustle of leaves, (whisper) is:  
a) 10dB                      b) 20dB                      c) 30dB                      d) 50dB
16. For pitched roof angle of roof should be greater than:  
a)  $10^\circ$                       b)  $20^\circ$                       c)  $25^\circ$                       d)  $45^\circ$
17. The process of preparing the wall surface before painting is:  
a) knotting                      b) priming                      c) stopping                      d) Finishing
18. In RCC framed structure brick wall is mainly constructed:  
a) To transfer load                      c) Aesthetic beauty  
b) For the partition                      d) None of the above
19. For a masonry wall generally the maximum length of wall is \_\_\_\_\_ times its thickness.  
a) 6                      b) 8                      c) 10                      d) 12
20. Fire is transferred from one floor to another floor mainly through:  
a) Door                      b) windows                      c) wall                      d) staircase

KATHMANDU UNIVERSITY  
End Semester Examination  
February/March, 2018

MAR 18 2018

Level : B.E.  
Year : IV  
Time : 2 hrs. 30 mins.

Course : CIEG 409  
Semester: I  
F.M. : 40

SECTION "B"

Attempt *ALL* questions.

1. List the methods of moisture control in basement of a building. Compare the different factors which help in heat gain as well as heat loss in a body. [4]
2. You are appointed as a site engineer for the investigation of a Hospital building which was damaged due to 2015 Gorkha earthquake. As you investigated the building, it was tilted in one direction. What could be the possible reason of such problem? Also Explain about common problems with existing foundation, and describe different methods of compaction for improving bearing capacity of soil. [6]
3. What do you understand by roof covering? What are commonly used roof covering materials for pitched roof. Also compare flat roof and pitched roof. [6]
4. Design a suitable staircase for public building in a hall of size 4.25m \* 5.25m. The vertical distance between floors is 3.9m. Sketch wherever necessary. Differentiate between staircase and ramp. [10]
5. Describe the different materials used in flooring. Write the differences between rigid and flexible floors. [4]
6. Define shoring. In which circumstances are they used? Describe about different materials used in shoring. [4]
7. In a construction site if you have to give instruction to a mason about proper method of plastering what would be your instruction? In the next day you went to the site to check the plaster work done by the same mason how would you come to conclusion that the plaster work is proper or not. [6]

