

KATHMANDU UNIVERSITY  
End Semester Examination  
August, 2018

Mark Scored:

Level : B. Arch.  
Year : I

Course : ARCH 161  
Semester : II

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date **AUG: 0 8 2018**

SECTION "A"

[20Q × 0.5 = 10 marks]

Tick (✓) the most appropriate answer.

1. The minimum compressive strength of 1<sup>st</sup> class bricks should be  
(a) 75 kg/cm<sup>2</sup>      (b) 90 kg/cm<sup>2</sup>      (c) 100 kg/cm<sup>2</sup>      (d) 120 kg/cm<sup>2</sup>
2. Efflorescence in cement is caused due to the excess of  
(a) Silica      (b) Lime      (c) Alkalies      (d) Iron oxide
3. For the manufacture of Portland cement, the proportions of raw materials used, are  
(a) Lime 63%, silica 22%, other ingredients 15%  
(b) Silica 63%; lime 22%; other ingredients 15%  
(c) Silica 40%; lime 40%; other ingredients 20%  
(d) Silica 70%; lime 20%; other ingredients 10%
4. The percentage of water required for normal consistency for OPC cement is  
(a) 5% to 15%      (b) 10% to 25%      (c) 26% to 33%      (d) 40% to 50%
5. Minimum required water cement ratio for a workable concrete is  
(a) 0.30      (b) 0.40      (c) 0.50      (d) 0.60
6. The Physical classification divides the rocks into  
(a) Calcareous, argillaceous and siliceous      (b) Organic, semi-organic and inorganic  
(c) Igneous, sedimentary and metamorphic      (d) Stratified, unstratified and foliated
7. The aggregate is called coarse aggregate if it is completely retained on \_\_\_\_\_ sieve.  
(a) 10 mm      (b) 15 mm      (c) 29 mm      (d) 4.75 mm
8. The volume of one bag of cement weighing 50 kg is  
(a) 0.05 m<sup>3</sup>      (b) 0.0345 m<sup>3</sup>      (c) 0.025 m<sup>3</sup>      (d) 0.04 m<sup>3</sup>
9. Marble is  
(a) Igneous rock      (b) Metamorphic rock  
(c) Stratified rock      (d) Sedimentary rock
10. Percentage to silica in a good brick earth lies between  
(a) 10 - 20%      (b) 20 - 40%      (c) 50 - 60 %      (d) 60%-80%
11. The clinker is formed at a temperature of  
(a) 500°C      (b) 1000°C      (c) 1200°C      (d) 1500°C

12. Advantage of a clamp compared to a kiln for burning bricks is that  
(a) It takes less time for burning  
(b) It gives more output of first class bricks  
(c) It has less initial cost  
(d) It is suitable when bricks are required in large numbers
13. The frog of a brick is normally made on its  
(a) Longer face (b) Shorter face (c) Bottom face (d) Top face
14. The amount of gypsum usually added in the manufacture of cement is  
(a) 0.1 to 0.5% (b) 0.5 to 1% (c) 1 to 3% (d) 3 to 5%
15. Le-Chatelier's device is used for determining the  
(a) Compressive strength of cement (b) Tensile strength of cement  
(c) Setting time of cement (d) Soundness of cement
16. Lime is considered to be hydraulic lime when it sets under water within  
(a) 2 to 5 days (b) 7 to 30 days (c) 2 to 3 months (d) 3 to 6 months
17. The stretcher bond in brick masonry can be used only when the thickness of wall is  
(a) 9 cm (b) 18 cm (c) 19 cm (d) 28 cm
18. Soundness of the material means the resistance of material against the effect of  
(a) Heat (b) Moisture attack  
(c) Alternate freezing and thawing (d) Tension force
19. Specific gravity of a good stone suitable for structural purposes should:  
(a) Not be less than 1.5 (b) Not be less than 2.7  
(c) Not be more than 5.0 (d) Be equal to 1.6
20. Quick setting cement is used  
(a) To obtain very light strength  
(b) For the construction of structures under water  
(c) Where resistance to acidic water is required  
(d) For early setting