KERALA AGRICULTURAL UNIVERSITY
B.Tech.(Agrl. Engg.) 2023 & Previous Admissions
III Semester Final Examination – January 2025

Iden.2104   **Building Construction and Cost Estimation (2+0)**   Marks: 50
Time: 2 hours

I   **Choose the correct answer**   (10x1=10)
1. If detailed drawings are not available, the steel reinforcement may be calculated approximately on the percentage basis of
   (a) height of building
   (b) brickwork
   (c) size of bending
   (d) concrete
2. Timbers with .... annular rings are generally the strongest.
   (a) Narrow
   (b) Wide
   (c) Distinct
   (d) Indistinct
3. In .... type of bond, the headers are distributed evenly
   (a) Stretcher bond
   (b) Flemish bond
   (c) Header bond
   (d) English bond
4. Calcium sulphate is present in ordinary cement in the form of ....
   (a) Lime
   (b) Alumina
   (c) Gypsum
   (d) Magnesia

   Fill in the blanks
5. .... is constructed above doors, windows.
6. The portion of a brick cut across the width is called ....
7. Stones which are placed at regular interval right across the wall are known as ....
   State True or False
8. Skylight is a type of window.
9. The quantity of cement concrete may be calculated by multiplying the area of floor by the thickness.
10. Steel is mainly an alloy of Carbon and Zinc.

II   **Write short notes on ANY FIVE of the following**   (5x2=10)
1. What are the uses of stones?
2. Define the term Efflorescence.
3. Discuss the provisions of doors in a structure with reference to the location and purpose.
4. What is seasoning? How is it necessary in timber?
5. Define plastering. What is purpose of plastering?
6. What is Schedule of rates?
7. Why sinking fund is provided?

| III | **Answer ANY FIVE of the following** | (5x4=20) |

1. Describe the properties of good preservative for timber.
2. Define bond in brick masonry. What are the rules for bonding?
3. State briefly the requirements of a good stair-case.
4. Suggest the roofing material for various types of pitched roofs with justification.
5. Define and explain workability of concrete.
6. How the clay is prepared for manufacture of bricks?
7. Prepare a preliminary estimate of a building having plinth area equal to 1600 sq.m. Given that –
   (i) Plinth area rate - ₹2000/- per sq.m.
   (ii) Extra for Architectural work - 12% of the building cost.
   (iii) Extra for Electrical Instatllation (10%), + Water supply and sanitary installations (6%) = 10 + 6 = 16% of the building cost.
   (iv) Extra for other services 8% of the building cost.
   (v) Contingencies and supervision charges 10%.

| IV | **Write an essay on ANY ONE of the following** | (1x10=10) |

1. Explain the defects in timber due to natural forces with neat sketches.
2. Differentiate and compare English and Flemish bond.

****