CIVIL ENGINEERING – JUNE, 2006

BUILDING MATERIALS, CONSTRUCTION, EARTHWORK AND ESTIMATION

(Sketch to accompany)

(Maximum marks : 100) [*Time*—3 hours

PART—A

I Answer in one or two sentences : Marks

1. Define sedimentary rocks.
2. What is meant by workability of concrete ?
3. Distinguish between Tree and Log.
4. What do you understand by damp proofing in building ?
5. Define a lintel.
6. Distinguish between Paint and Varnish.
7. Write the general prismoidal formula for calculating volumes.
8. Write the units of P.C.C. and Brick masonry.
9. Define the bearing capacity of soil.
10. Define ceiling.

(10×2=20)

PART—B

(Answer *five* full questions)

II (a) How stones are chemically classified ?

(b) Explain briefly the manufacture of bricks. 5

(c) Name any five defects of plastering. 6

OR 5

III (a) Briefly explain the manufacture of cement by dry process. 6

(b) What are the characteristics of an ideal damp proofing material ?

(c) Write any four applications of P.V.C. in building industry. 6

IV (a) Write any six requirements of foundation. 4

(b) What are the precautions to be taken in brick masonry ? 4

(c) Name any six classifications of windows. 6

OR

Marks

V (a) Write any four requirements of a good roof. 4

(b) Why pointing is necessary ? (give six points) 6

(c) Briefly explain the method of painting a new wall using enamel paint. 6

VI (a) What are the characteristics of good stone ? 5

(b) Distinguish between Foundation and Superstructure. 3

(c) What are the points to be considered while fixing the position of stair case ? 3

OR

VII (a) Explain the method of painting a new door. 7

(b) Name the classifications of glass. 5

(c) Write the methods of preservation of timber. 4

VIII (a) What are the requirements of a good paint ? 5

(b) Draw the sketches of 'dovetail' and 'lap' joints in carpentry. 6

(c) Write the methods of increasing the bearing capacity of soil. 5

OR

IX (a) Give the requirements of a good floor. 6

(b) What are the ingredients of a paint ? 4

(c) Define the following :

1. Gabled roof
2. Revised estimate
3. Balancing in earthwork.

(3×2=6)

X The given figure I shows the plan of a building. Calculate quantity of the following :

(a) Random rubble masonry for foundation and basement. 8

(b) R.C.C. roof in 10 cm thick. 8

OR.

XI A road is in embankment, having uniform longitudinal slope of 1 in 150. The formation width is 4 metre and side slope is 1 in 2. The height of formation at starting point is 6 metre. Calculate the quantity of earthwork for a length of 500 metre of road using trapezoidal formula taking sections at 20 metre interval. 16

(മലയാള പരിഭാഷ)

പാർട്ട്— എ

(ഒന്നോ രണ്ടോ വാക്യങ്ങളിൽ ഉത്തരമെഴുതുക)

I 1. സെഡിമെന്ററി റോക്ക് നിർവ്വചിക്കുക.

2. കോൺക്രീറിന്റെ വർക്കബിലിറ്റി എന്നാലെന്ത് ?

3. മരവും തടിയും തമ്മിലുള്ള വ്യത്യാസമെന്ത് ?