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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATIONS- 2026

B.Tech-IV Semester (CSE/IT/BT/ECE/CE)

COURSE CODE (CREDITS): 25B11CE415 (3)

MAX MARKS: 35

COURSE NAME: COMPUTER AIDED PLANNING AND COSTING

COURSE INSTRUCTOR: Dr. KAUSHAL KUMAR

MAX. TIME: 2 Hours

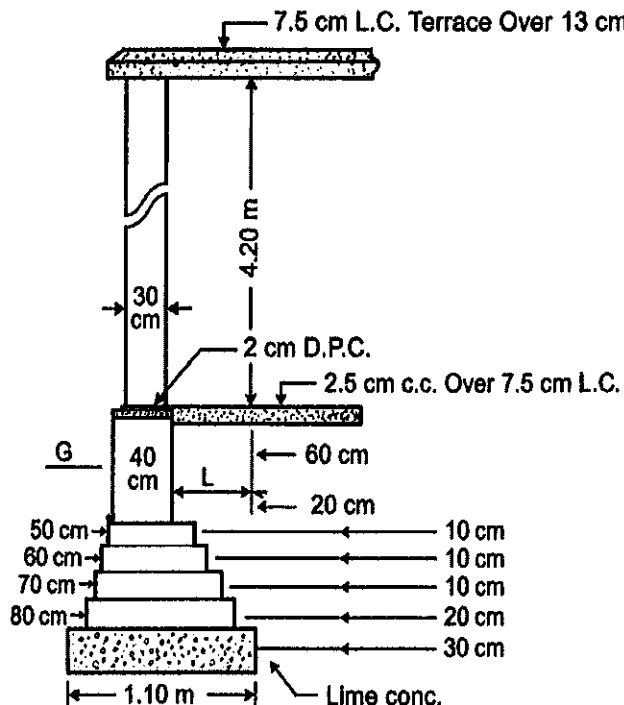
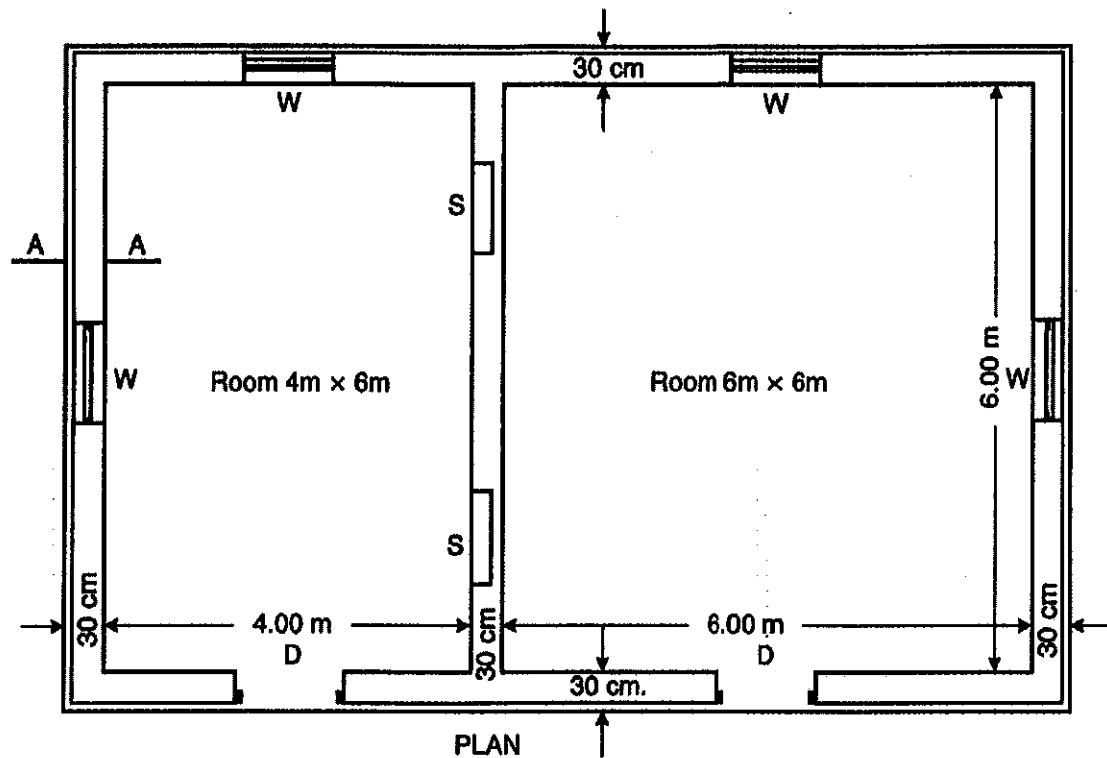
Note: (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculator is allowed.

Q. No	Question	C O	Marks																												
Q1	Estimate the quantities of the following items of works for the building as shown in fig.1 using Centre Line Method. i) Earthwork in excavation in foundation ii) PCC in foundation iii) Brickwork in footings and plinth iv) material in Damp proof course of 2.5 cm thickness v) Brick work in walls. Prepare abstract of work.		7																												
Q2	Work out quantity of 8 mm, 10 mm and 16 mm dia. reinforcement bars for a rectangular beam of size 300 x 450 mm. The beam is reinforced with 2 Nos.- 10 mm dia. bars at top, 2 Nos. of 16mm dia. bar at bottom, and 2 Nos. -16 mm dia. bent up, 8 mm dia., two legged stirrups are provided at 130mm c/c throughout the length, length of beam is 5.0 m. Assume cover to be 25 mm.		7																												
Q3	Prepare a detailed estimate for earthwork for a portion of a road from following data: <table><tr><td>Dist . in m</td><td>0</td><td>100</td><td>200</td><td>300</td><td>400</td><td>500</td><td>600</td><td>700</td><td>800</td><td>900</td><td>1000</td><td>1100</td><td>1200</td></tr><tr><td>R.L. of ground</td><td>114.5</td><td>114.75</td><td>115.25</td><td>115.5</td><td>115.8</td><td>116.1</td><td>116.4</td><td>116.7</td><td>117.0</td><td>117.3</td><td>117.6</td><td>117.9</td><td>118.2</td></tr></table> R.L. of formation 115 at 0 m, Upward gradient 1 in 200 upto 600 m after that Downward gradient of 1 in 400. Formation width of the road is 10 metre. Side slope 2:1 in banking and 3:2 in cutting.	Dist . in m	0	100	200	300	400	500	600	700	800	900	1000	1100	1200	R.L. of ground	114.5	114.75	115.25	115.5	115.8	116.1	116.4	116.7	117.0	117.3	117.6	117.9	118.2		7
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Q4	a) For 5,00,000 bricks in 1:3 cement mortar, compute the quantity of sand required. b) Calculate the quantity of cement required in cu.m for plastering a wall 5 m x 4 m (12 cm thick) for a mortar mix of 1:6. c) Compute the quantities of ingredients required to prepare 10 cu.m of design mix 1:2:4.		7																												

Q5	a) List out different types of contracts, explain any two in detail. b) Explain in details the procedure to invite a tender. (Detailed documentation)	7
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All Walls are of same section
 Lintels over Doors, Windows and
 Shelves are 15 cm thick R.B.

Doors D-1.20 m x 2.10 m
 Windows W-1.00 x 1.50 m
 Shelves S-1.00 m x 1.50 m

Fig 1: Plan and Elevation of the building.