

# P P SAVANI UNIVERSITY

Third Semester of Diploma Examination

November 2022

IDCV2010 Building Materials & Construction Technology

19.11.2022, Saturday

Time: 10:00 a.m. To 12:30 p.m.

Maximum Marks: 60

## Instructions.

1. Make suitable assumptions and draw neat figures wherever required.
2. Use of scientific calculator is allowed.

Q - 1		Attempt following questions (Any Five)		[05]	CO	BTL
(i)	The compressive strength of 1 <sup>st</sup> class brick is _____.			3		1
	a) 3 N/mm <sup>2</sup> b) 5.5 N/mm <sup>2</sup> c) 10.5 N/mm <sup>2</sup> d) 7.5 N/mm <sup>2</sup>					
(ii)	Quartzite is a _____			2		4
	a) Metamorphic rocks b) Argillaceous rocks c) Calcareous rocks d) Silicious rocks					
(iii)	If P is the percentage of water required for normal consistency, water to be added for determination of initial setting time, is _____.			3		1
	a) 0.70 P      b) 0.75 P      c) 0.80 P      d) 0.85 P					
(iv)	A good brick earth should contain:			3		1
	a) about 20% to 30% of alumina b) about 50% to 60% of silica c) not more than 5% of lime d) about 5 to 6% of oxide of lime e) All the above					
(v)	Cement is said to be of good quality if:			3		4
	a) its color is not greenish grey b) one feels cool by thrusting one's hand in the cement bag c) it is not smooth when rubbed in between fingers d) a handful of cement thrown into a bucket of water does not float e) none of these.					
(vi)	What is the initial setting time of cement.			3		1
	a) 30 min      b) 60 min      c) 30 hours      d) 15 min					
Q - 2 (a)	Define Physical and Chemical properties of building materials. Also Define applications of building materials.	[05]	1			4
Q - 2 (b)	Difference between clamp burning and kiln burning brick.	[05]	3			2
<b>OR</b>						
Q - 2 (a)	Classification of Stones with uses of Stones. How are rocks classified and explained?	[05]	2			1
Q - 2 (b)	Write the types of cement with their specific uses.	[05]	3			4
Q - 3 (a)	Define classification of rocks?	[05]	2			1
Q - 3 (b)	Explain qualities of good bricks?	[05]	3			4
<b>OR</b>						
Q - 3 (a)	Define tests on cement? Explain anyone?	[05]	3			1
Q - 3 (b)	Define tests on Aggregates? Explain anyone ?	[05]	3			1



<b>Q - 4</b>	Attempt any one/two.	<b>[05]</b>		
<b>(i)</b>	What is glass? State the properties of glass?		4	2
<b>(ii)</b>	Enlist various types of foundation? Explain anyone in details?		1	2
<b>Q - 5</b>	Attempt following questions (Any Five)	<b>[05]</b>		
<b>(i)</b>	In paints, the pigment is responsible for		4	1
	a) durability      b) color      c) smoothness      d) glassy face			
<b>(ii)</b>	PVC Stands for _____.		4	1
<b>(iii)</b>	How many types of foundations are there based on depth?		1	1
	a) 3                      b) 4                      c) 5                      d) 2			
<b>(iv)</b>	_____ footing is used in load bearing masonry construction.		1	1
	a) Isolated              b) Strap              c) Strip              d) Pile			
<b>(v)</b>	In how many layers is oil paint applied to a surface?		4	1
	a) 3                      b) 4                      c) 2                      d) 1			
<b>(vi)</b>	A _____ is used to level to the ground and spread the loose material.		4	1
	a) Excavator              b) Scraper              c) Grader              d) Tractor			
<b>(vii)</b>	An _____ is an oldest types of machine which removes earth.		4	1
	a) Escalator              b) Excavator              c) Elevator              d) Bulldozer			
<b>Q - 6 (a)</b>	Explain Failure in foundation precautions and write Types of Shear Failure of Foundation on Soils.	<b>[05]</b>	1	4
<b>Q - 6 (b)</b>	What is the purpose of using advanced type of machinery in construction?	<b>[05]</b>	4	3
	<b>OR</b>			
<b>Q - 6 (a)</b>	What is the procedure of Water Absorption Test.	<b>[05]</b>	3	1
<b>Q - 6 (b)</b>	Draw sketch of Pug Mill.	<b>[05]</b>	4	1
<b>Q - 7 (a)</b>	What is foundation of building?	<b>[05]</b>	1	2
<b>Q - 7 (b)</b>	Enlist various types of foundation? Explain anyone in details?	<b>[05]</b>	1	1
	<b>OR</b>			
<b>Q - 7(a)</b>	What are basic components of building?	<b>[05]</b>	1	2
<b>Q - 7(b)</b>	Difference between shallow and deep foundation ?	<b>[05]</b>	1	2
<b>Q - 8</b>	Attempt any one/two.	<b>[05]</b>		
<b>(i)</b>	What are various uses of plastics?		2	4
<b>(ii)</b>	Characteristics of sand stones and lime stone.		2	4

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CO : Course Outcome Number                      BTL : Blooms Taxonomy Level

Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create