Ministry of Education
Chumey Higher Secondary School
Chummig: Bumthang
Academic Year 2022

ANNUAL EXAMINATION

Subject: Masonry   **Writing time: 1 hour**
Class: IX   **Full Mark: 50 marks**

INDEX CODE:

Invigilator's Initial: …………………………..

READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. Do not write for the first **fifteen minutes**. This time is to be spent reading the questions. After having read the questions, you will be given **one hour** to answer all of the questions.
2. Write your **INDEX CODE** properly on the answer sheet.
3. In this paper, there are two sections: **SECTION A** and **SECTION B**. Attempt **ALL** the questions.
4. **Read and re-read** carefully to understand the **instructions and questions** before answering them.
5. **Writing neatly and clearly** will always go well in **your favour**. If your writing cannot be read, **marks can't be awarded**.
6. The intended marks for each question or part of the questions are given in the **brackets**.
7. **Do not** leave the examination hall **before you have made sure that you have answered all the questions**.

FOR TEACHER'S USE ONLY						
SECTION	**A**				**B**	
Question	**1. a) (MCQ)**	**1. b) (T/F)**	**1. c) (Matching)**	**1. d) (Completion)**	**2. (SAQs)**	**3. (ERQs)**
Mark	10	5	5	10	10	10
Mark Scored						
Initial						
Total Score						
Final Score						

SECTION A [30 MARKS]
ANSWER ALL QUESTION

Question 1

a)	**Direction: For multiple choice questions, there are four alternatives: A, B, C, and D. Choose the correct alternative and circle it. Do not circle more than ONE alternative. If there is more than one circled, NO score will be awarded.**	**[10]**

i. Symbols are used to represent
   A   diameter.
   B   isometric planes.
   C   non-isometric lines.
   D   non-isometric planes.

ii. The compressive strength of third-class brick is
   A 28.0 N/mm^2.
   B 14.0 N/mm^2.
   C 7.0 N/mm^2.
   D 3.5 N/mm^2.

iii. Aggregate is measured in boxes of suitable size of
   A   30 x 25 x 40 mm.
   B   35 x 25 x 40 mm.
   C   35 x 20 x 40 mm.
   D   30 x 20 x 40 mm.

iv. While stacking cement bags, the space maintained between the two consecutive rows is
   A   200 mm.
   B   350 mm.
   C   450 mm.
   D   600 mm.

v. Karma is working at a height of 3.5 m above the ground level fixing the broken window. What PPE is mandatory to be used?
   A   Helmet
   B   Safety belt
   C   Safety shoe
   D   Workshop dress

vi. The fire caused by petroleum oil is
   A   class A.
   B   class B.
   C   class C.
   D   class D.

vii. The average value of silt content in the sand should not exceed
 	
    A   5%.
    B   6%.
    C   7%.
    D 8%.	

viii. Kinley is separating damaged items from reusable items. The principle of 5S practiced is
 	
    A   set.
    B   sort.
    C   shine.
    D sustain.	

ix. The importance of maintaining a workplace and personal safety is to
 	
    A   produce unhappy employees.
    B   create safety working ambience.
    C   keep working premises at lower standards.
    D give rise to the business cost and disruption.	

x. A building used for displaying and sale of merchandise is
 	
    A   business building.
    B   industrial building.
    C   assembly building.
    D commercial building.	

b)	**Write TRUE or FALSE for the following statements in the space provided against them.**	**[5]**
	i. Unit measurement of brickwork in the superstructure is sqm.	
	ii. Strap beams can transfer the load to the soil.	
	iii. Soak the sample bricks in the water for 24 hours for a water absorption test	
	iv. Queen closer is used in the stretcher bond wall.	
	v. Oxygen is an important element in combating fire.	

c)	**Match each item under column A with the most appropriate item in column B. Write the correct responses against their premises in the space provided.**		**[5]**

Column A	Column B	
i. Fire caused by electricity	a. Detailed estimate	
ii. Fall test	b. Class A	
iii. Fire caused by metals	c. 1.5 m	
iv. Cost incurred in the completion of the work	d. Class E	
v. Fire caused by paper	e. Approximate estimate	
	f. Class D	
	g. 1 m	

Column A	Column B	
i. Fire caused by electricity		
ii. Fall test		
iii. Fire caused by metals		
iv. Cost incurred in the completion of the work		
v. Fire caused by paper		

d)	**Fill in the blanks with an appropriate word(s).**	**[10]**
i.	A piece of plastic used for maintaining equal space between the tiles is ……………………..	
ii.	A mixture of cement, sand and water where cement acts as a binding material is ……………………..	
iii.	The process used to sort, order, and clean the workplace is known as ……………………..	
iv.	The bricks are cut with a brick hammer and ………………………..	
v.	A unit of measurement in excavation of foundation trenches is ……………………..	
vi.	Lodge, dormitories, flats and hotels are an example of ………………… building.	
vii.	The exposed surface of the wall or structure is known as ………………………..	
viii.	A notation used in engineering drawing to minimize the wastage of time is ……………………..	
ix.	During the efflorescence test, when there is no perceptible deposit of salt, it is considered ……………………..	
x.	Sand used for plastering and concreting work is sand from ………………………..	

SECTION B (20 MARKS)
ANSWER ALL QUESTIONS

Question 2

i.   List any **TWO** properties of good brick.   **[2]**

ii. List down the **FOUR** types of mortar.   **[2]**

iii. How ingredients of mortar are measured and carried out?   **[3]**

iv. What brick-bat is used in stretcher bond wall? Why is it provided?   **[2]**

v.   Define title block.   **[1]**

Question 3

i.	What is the purpose of walls in building?	**[1]**

ii.	Find the total quantity of bricks required in a wall if the wall is 1.8 m length, 12.5 cm breadth, and 1 m height.	**[4]**

iii.	Assume that stonework of 10 m^3 dry volume to be constructed with mortar ratio of 1:5. Calculate the quantity of cement and sand.	**[5]**

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