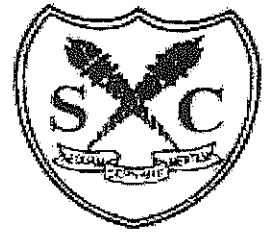




AEQUAM SERVARE MENTEM

**SASTRI COLLEGE**  
**Grade 8 - Technology**  
**March Controlled Test-2018**



AEQUAM SERVARE MENTEM

**Duration: 1 hour****Marks : 50****Examiner: Mr. R. Rajkumar****Moderator: Mr. I. Ramklown**

Write down 1.1 to 1.5 in your answer book. Write ONLY the letter of the correct answer, eg. 1.1) d.

**Question 1: Multiple Choice**

1.1. A bar or beam of wood or metal that is inserted into a frame to bear weight.

- a) Pole
- b) Strut
- c) Pylon
- d) Queen post

1.2. Which of the following is an example of a frame structure?

- a) Bed
- b) Dome
- c) Shell
- d) Tree trunk

1.3. This is a "tearing force" that acts in opposite directions.

- a) Compression
- b) Tensile
- c) Shear
- d) Twisting

1.4. The type of pylon design which uses triangulation and cross bracing is?

- a) Tubular
- b) Lattice
- c) Both a and b
- d) Concrete

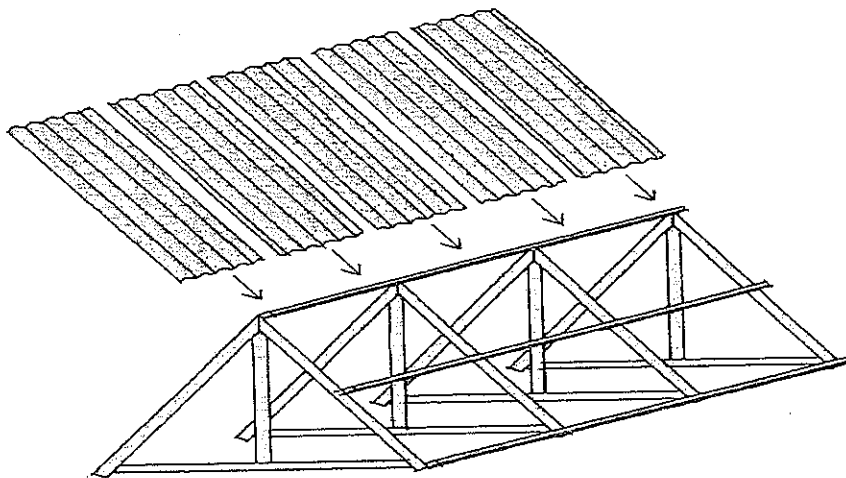
1.5. A metal I-beam resists which type of forces?

- a) Shear
- b) Bending
- c) Torsion
- d) Both a and b

[5]

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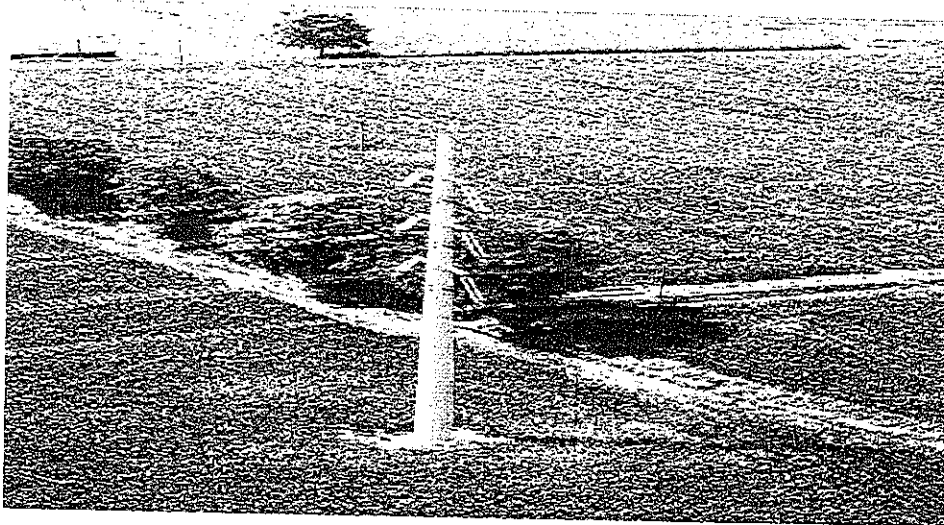
Question 2: Study the following diagram and answer the questions :



- 2.1. What force is experienced by the roof truss when the corner is added to it? (2)
- 2.2. List two members in a roof truss that would be able to counteract the force mentioned in 2.1. (4)
- 2.3. What force does a king post counteract? (1)
- 2.4. Name the member that connects the Rafters in the roof truss? (1)
- 2.5. A combination of beams and struts is commonly used to strengthen a structure, what is this design known as? (2)

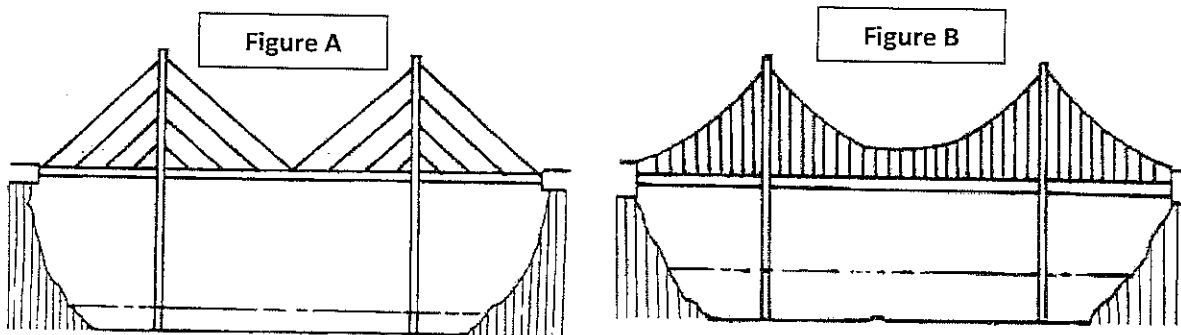
[10]

**Question 3: (Pylons)**



- 3.1. State the type of pylon design represented in the above diagram. (1)
  - 3.2. List the three specifications of this type of design. (6)
  - 3.3. Give two reasons why this type is better than a wood design? (4)
  - 3.4. What is triangulation? Explain in detail. (2)
  - 3.5. What is cross bracing? Explain in detail. (2)
- (15)

**Question 4: Study the figures in A and B and answer the questions that follow.**



- 4.1. What is the importance of anchorage in figure B? (3)
- 4.2. List two similarities of both the bridges. (2)
- 4.4. How is the force distributed in figure A? (2)
- 4.5. Which bridge do you think will sustain more load after 5 cables snap on each bridge? Justify your answer. (3)

NAME : \_\_\_\_\_

GRADE : 8 \_\_\_\_\_

**REMOVE THIS PAGE AND PLACE IN ANSWERBOOK**

**QUESTION 5**

Copy the following isometric drawing on the isometric grid provided.

[ 10 ]

