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Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai.

Department of Civil Engineering

Unit I – MCQ Bank

1. . Principle of virtual work was developed by mohr.

State whether the above sentence is true or false.

a) True

b) False

Answer:b

2. What is the relation between work done by external loads and work done by internal loads.

a) They are unequal

b) They are equal

c) Can't say

d) Depends upon load

Answer:b

3. Dummy unit load method and virtual work method are two different approaches.

State whether the above statement is true or false.

a) True

b) False

Answer:b

4. To apply this method it is :-

a) Compulsory for external and internal forces to be in equilibrium

b) Not compulsory for external and internal forces to be in equilibrium

c) Compulsory for external and internal forces to be in equilibrium in higher loads

d) Compulsory for external and internal forces to be in equilibrium in lesser loads

Answer:a

5. What is the shape of load-deformation curve for a linear elastic member?

- a) **Straight line with constant slope**
- b) Straight line with varying slope
- c) Curve
- d) Sine wave

Answer:a

6. What is the shape of load-deformation curve for a non-linear elastic member?

- a) Straight line with constant slope
- b) Straight line with varying slope
- c) **Curve**
- d) Circle

Answer:c

7. What is the relation between work done and complementary work done?

- a) They are always equal
- b) They are always equal
- c) **Can't say**
- d) Depends upon loading

Answer:c

8. Conservation of energy will be applicable only when:-

- a) **Static load is applied**
- b) Dynamic load is applied
- c) Can be anything
- d) Large load is applied

Answer:a

9. _____ is a framed structure composed of members.

- a) Purlin
- b) Gussets

c) Ridge tops

d) Truss

Answer:d

10. Trusses are subjected to _____ stress.

a) Compressive

b) Tensile

c) Direct

d) Lateral

Answer:c

11. Trusses are adopted for _____ span.

a) Medium

b) Short

c) Very large

d) Large

Answer:c

12. The top line of roof truss is called as _____

a) Eaves

b) Main tie

c) Pitch

d) Ridge line

Answer:d

13. If the members connected don't lie in the same plane, then structures are called _____

a) Space truss

b) Plane truss

c) Main truss

d) Foot truss

Answer: a

14. King post trusses are used for spans _____

- a) 5 to 8 m
- b) 6 to 9 m**
- c) 4 to 6 m
- d) 6 to 8 m

Answer:b

15. _____ shape of the frame offers great rigidity.

- a) Trapezoidal
- b) Triangular**
- c) Rectangular
- d) Square

Answer:b

16. Which of the following roof are used on small sheds and veranda opening?

- a) Couple roof
- b) Collar roof
- c) Pent roof**
- d) Purlin roof

Answer:c

17. The top chord members of roof truss is called _____

- a) Common rafters
- b) Principal rafters**
- c) Main tie
- d) Pitch

Answer:b

18. The bottom chord member of truss is known as _____

- a) Main tie**

- b) Principal rafters
- c) Common rafters
- d) Purlins

Answer:a

19. The ratio of rise to span of truss is called a _____

- a) Slope
- b) Splay
- c) Pitch
- d) Tie**

Answer:d

20. The economical spacing of roof trusses works out to be _____ span.

- a) 1/2 to 1/5 span
- b) 1/3 to 1/5 span**
- c) 1/2 to 1/3 span
- d) 1/4 to 1/6 span

Answer:b

21. Maxwell's reciprocal theorem is applicable for elastic materials only.

- a) True**
- b) False

Answer:a

22. Maxwell's reciprocal theorem is applicable for only prismatic members.

- a) True
- b) False**

Answer:b

23. Identify the incorrect statement from the following regarding applicability of Maxwell's reciprocal theorem.

- a) It is applicable for elastic member's only
- b) The temperature must remain constant throughout
- c) Supports of the member should be unyielding
- d) It is applicable for prismatic member only**

Answer:d

24. Eetti's Theorem is based on _____

- a) Balancing of external and internal forces
- b) Balancing of work done produced by external and internal loadings**
- c) Balancing of external and internal moments
- d) Balancing of strain energy produced by external and internal loadings

Answer:b

25. Law of reciprocal deflections was given by _____

- a) E. Betti
- b) James Clerk Maxwell**
- c) Alberto Castigliano
- d) Clayperon

Answer:b