



Chettinad

College of Engineering & Technology

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

Department of Civil Engineering

CE8602 Structural Analysis II

Unit III - MCQ Bank

1. An arch is a beam except for ____
- a) It does not resist inclined load
 - b) It does not resist transverse forces
 - c) It does not allow rotation at any point
 - d) It does not allow horizontal movement**

Answer: d

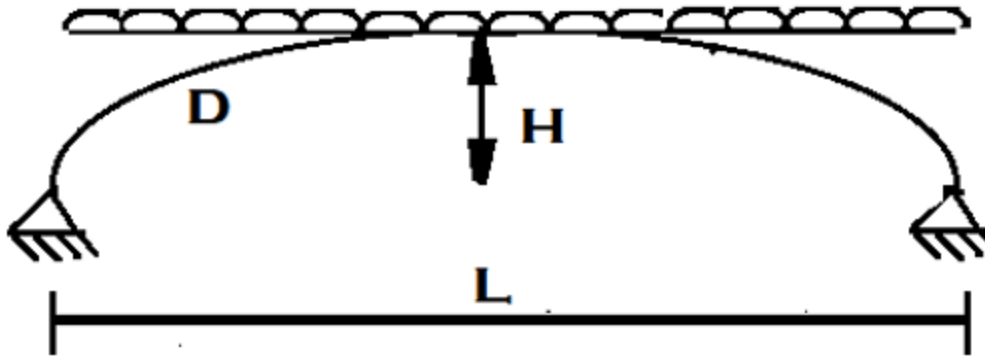
2. An arch is more economical than a beam for a shorter span length.
- a) True**
 - b) False

Answer: a

3. Two hinged arches is a determinate structure.
- a) True
 - b) False**

Answer: b

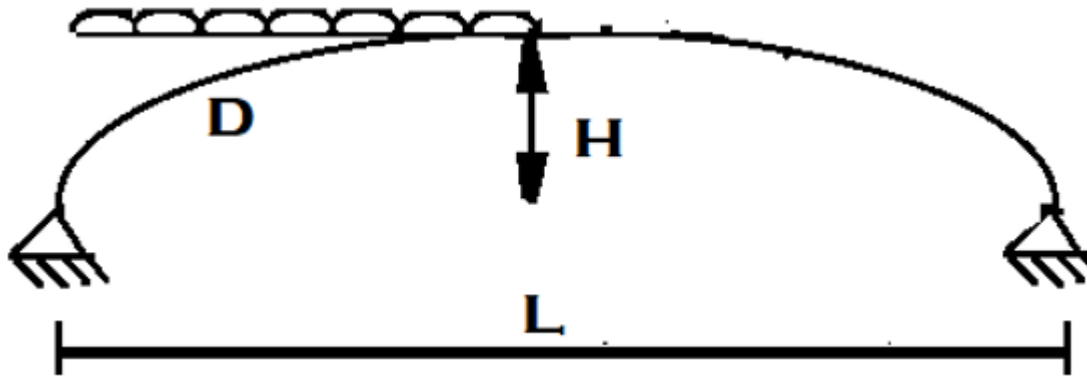
4. Calculate the horizontal thrust for the two hinged parabolic arch loaded uniformly throughout with distributed load.



- a) $WL^2/32H$
- b) $WL^2/16H$
- c) $WL^2/8H$
- d) $WL^2/2H$

Answer: c

5. Calculate the horizontal thrust for the two hinged parabolic arch loaded uniformly for the left half span of the arch with distributed load.

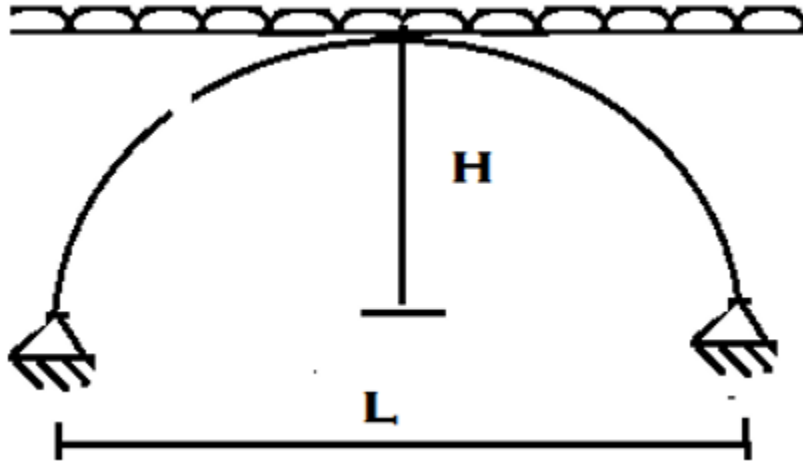


- a) $WL^2/32H$
- b) $WL^2/16H$
- c) $WL^2/8H$
- d) $WL^2/2H$

Answer: b

6. Calculate the horizontal thrust for the two hinged semicircular arch loaded

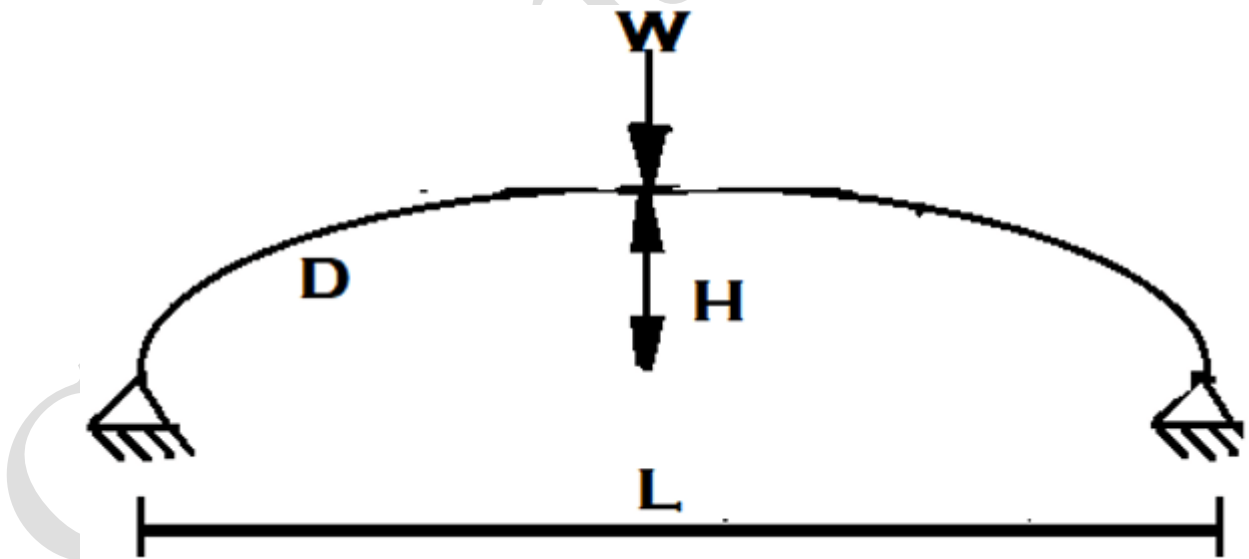
uniformly throughout with distributed load.



- a) $W\pi$
- b) $W\pi \sin^2 \theta$
- c) $4RW3\pi$
- d) $W2\pi$

Answer: c

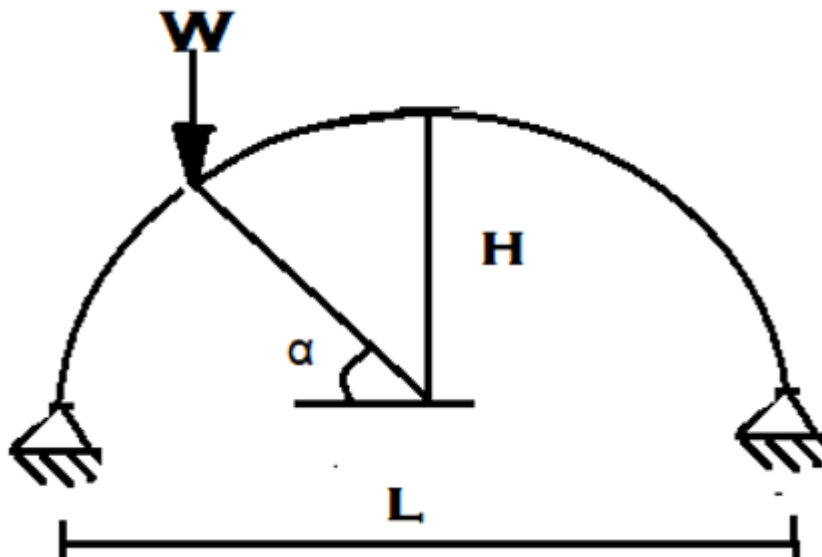
7. Calculate the horizontal thrust for the two hinged parabolic arch loaded with point load at its crown.



- a) $W\pi$

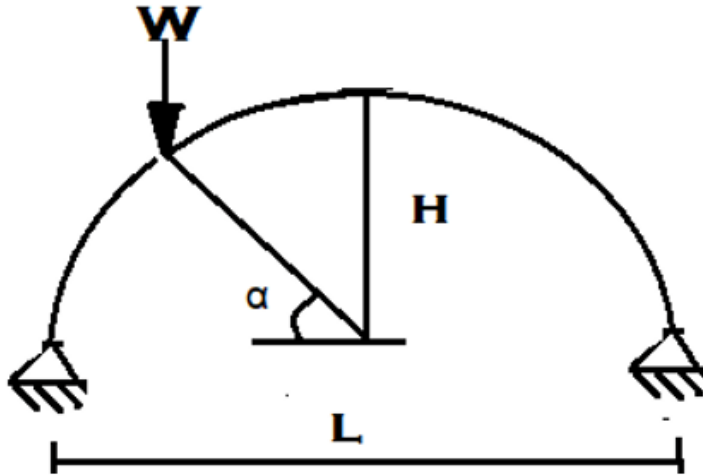
- b) $W\pi\sin^2\alpha$
- c) $4RW3\pi$
- d) $25WL128H$

8. Calculate the horizontal thrust for the two hinged semicircular arch loaded with point load at inclination of α with horizontal axis on the left span.



- a) $W\pi$
- b) $W\pi\sin^2\alpha$
- c) $4RW3\pi$
- d) $25WL128H$

9. Calculate the horizontal thrust for the two hinged semicircular arch loaded with point load at inclination of α with horizontal axis on the left span.



- a) $W\pi$
- b) $W\pi\sin^2\alpha$**
- c) $4RW3\pi$
- d) $25WL128H$

Answer: b

10. Top most part of an arch is called _____

- a) Soffit
- b) Crown
- c) Center**
- d) Abutment

Answer: c

11. Which of the following is true in case of stone brick?

- a) They are weak in compression and tension
- b) They are good in compression and tension**
- c) They are weak in compression and good in tension
- d) They are good in compression but weak in tension

Answer: b

12. Shape of three hinged arch is always :-

- a) Hyperbolic
- b) Circular
- c) Parabolic
- d) Can be any arbitrary curve**

Answer: d

13. Internal bending moment generated in a three hinged arch is always:-

- a) 0
- b) Infinite
- c) Varies**
- d) Non zero value but remains constant

Answer: c

14. Internal shear force generated in a three hinged arch is always:-

- a) 0**
- b) Infinite
- c) Varies
- d) Non zero value but remains constant

Answer: a

15. What is the degree of indeterminacy of a fixed arch?

- a) 1**
- b) 2
- c) 3
- d) 4

Answer: a

16. What is the degree of indeterminacy of a two hinged arch?

- a) 1
- b) 2
- c) 3**
- d) 4

Answer: c

17. In real life, bending stresses are zero in a three hinge arch.

State whether the above statement is true or false.

- a) True
- b) False**

Answer: b

18. What is the degree of indeterminacy of a three hinged arch?

- a) 1
- b) 2**
- c) 3
- d) 0

Answer: b

19. In two hinged arch increases in temperature induces

- a) no bending moment in the arch rib
- b) uniform bending moment in the arch rib
- c) maximum bending moment in the crown**
- d) maximum moment in the crown

Answer: c

20. Which of the following structural loads are not applied commonly to a building?

- a) Dead load
- b) Rain load**

- c) Live load
- d) Environmental load

Answer: b

21. Dead load comprises of:-

- a) Permanently attached loads**
- b) Temporarily attached loads
- c) Permanent as well as temporary loads
- d) Snow load

Answer: a

22. Live loads, with time can vary in:-

- a) Magnitude
- b) Position
- c) Neither position nor magnitude
- d) Position as well as magnitude**

Answer: d

23. Most of the loads applied to a building are environmental load.

State whether this statement is true or false.

- a) True
- b) False**

Answer: b

24. Impact load results from which type of effects of loads applied?

- a) Static
- b) Dynamic**
- c) Static and dynamic
- d) Neither static nor dynamic

25. Three hinged arches is a determinate structure.

a) **True**

b) False

Answer: a

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