



Department of Civil Engineering

Unit II – MCQ Bank

1. In cantilever beams, the extra support is known as _____

- a) Hinch
- b) Prop**
- c) Cripple
- d) Indeterminate end

Answer: b

2. Prop reduces _____ in the beam.

- a) Deflection**
- b) Slope
- c) Shear
- d) Moment

Answer: a

3. Which of the following is indeterminate structure?

- a) Singly rereinforced beam
- b) Propped cantilever beam**
- c) Over hanging beam
- d) Simply supported beam

Answer: b

4. _____ is used to produce due to temperature variation in indeterminate structures.

- a) Stresses**
- b) Strains
- c) Deflections
- d) Moment

5. In cantilever beams, the maximum deflection occurs at _____

- a) Fixed end

b) Free end

- c) Through out
- d) Point of loading

Answer: b

6. The upward deflection caused by the prop is _____

- a) $Pl^3/2EI$
- b) $Pl^2/3EI$
- c) $Pl^3/3EI$**
- d) $Pl^4/3EI$

Answer: c

7. Stiffness of the propped cantilever is _____

- a) $4EI/l$**
- b) $6EI/l$
- c) $8EI/l$
- d) $5EI/l$

Answer: a

8. Calculate the reaction at prop of cantilever, if the span of beam is 5m and load is 20 kN.

- a) 4.25 kN
- b) 5 kN
- c) 6.25 kN**
- d) 8 kN

Answer: c

9. A beam which is inbuilt in at its support is called _____

- a) Cantilever beam
- b) Simply supported beam
- c) Fixed beam**
- d) Continuous beam

Answer: c

10. Fixed beam is also known as _____

- a) **Encaster beam**
- b) Constressed beam
- c) In built beam
- d) Constricted beam

Answer: a

11. In fixed beams, the slope at the supports be _____

- a) Minimum
- b) **Zero**
- c) Maximum
- d) Throughout

Answer: b

12. _____ changes induce large stresses in a fixed beam.

- a) Lateral
- b) Deflection
- c) **Temperature**
- d) Slope

Answer: c

13. A beam 6 metres long is fixed at it ends. It carries a udl of 5 kN/m. Find the maximum bending moment in the beam.

- a) **15 kNm**
- b) 20 kNm
- c) 35 kNm
- d) 40 kNm

Answer: a

14. Calculate the maximum deflection of a fixed beam carrying udl of 5 kN/m. The span of beam is 6 m.

Take $E = 200\text{kN/m}^2$ and $I = 5 \times 10^7 \text{ mm}^4$.

- a) 1.865 m
- b) 2.235 m

c) **1.6875 m**

d) 2.5 m

15. Calculate the load intensity of fixed beam if the maximum deflection shall not exceed $1/400$ of the span.

Take EI as 10^{10} kN mm².

a) 40 kN

b) 35 kN

c) **45 kN**

d) 60 kN

Answer: c

16. In fixed beams, the maximum deflection at _____ is reduced.

a) **Centre**

b) Supports

c) At point of loading

d) Through out

Answer: a

17. Fixing couples means _____

a) End moments

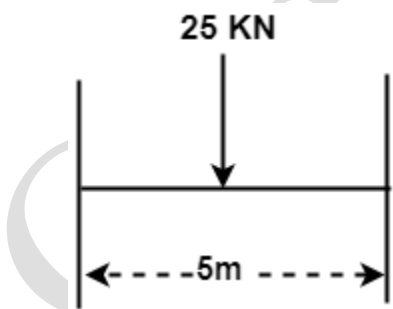
b) Support couples

c) **Support moments**

d) End supports

Answer: c

18. Calculate the maximum bending moment in fixed beam for the following figure.



a) 17 kN-m

b) 12.5 kN-m

c) **15.625 kN-m**

d) 18 kN-m

Answer: c

19. A beam which is supported on more than two supports is called as _____

a) Fixed beam

b) **Continuous beam**

c) Cantilever beam

d) Simply supported beam

Answer: b

20. Which of the following them is also known as multi span beam _____

a) Cantilever beam

b) Simply supported beam

c) Fixed beam

d) **Continuous beam**

Answer: d

21. In deflection of a continuous beam, when loaded there will be convexity upwards over _____ supports.

a) End

b) Alternate

c) **Intermediate**

d) Every

Answer: c

22. The _____ is more over the supports than at midspan in continuous beams.

a) Slope

b) **Bending moment**

c) Deflection

d) Shear force

Answer: b

23. The maximum negative bending moment in fixed beam carrying udl occurs at _____

- a) Mid span
- b) 1/3 of the span
- c) Supports**
- d) Half of the span

Answer: c

24. A fixed beam of the uniform section is carrying a point load at the centre, if the moment of inertia of the middle half portion is reduced to half its previous value, then the fixed end moments will _____

- a) Increase**
- b) Remains constant
- c) Decrease
- d) Change their direction

Answer: a

25. . In propped cantilevers, the prop reaction is $3/8$ wl.

- a) True**
- b) False

Answer: a