



BPSC AE

Previous Year Paper (Civil Engineering) Paper-V 19 Dec, 2024

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- 1. A beam curved in plan is designed for
 - (A) Shear only(B) Bending only
 - (C) Bending moment, shear and



- torsion
- (D) Shear and torsion
- 2. A fixed beam of span L is loaded with uniformly distributed load throughout the span. The contraflexure point will be at
 - (A) 0.30 L
 - (B) 0.25 L
 - (C) 0.15 L

(D)

0.21 L

3.

An example of a light moment connections is

の理論

- (A) Framed connection >
- (B) Clip angle section
- (C) Split beam connection
- (D) Unstiffened seat connection

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- 4. A cantilever sheet pile derives its stability from
 - (A) The anchor rod π
 - (B) Lateral resistance of soil
 - (C) Self weight
 - (D) None of the above
- 5. A continuous beam of constant Mp has three equal spans (L) and carries uniformly distributed load on each span. The value of collapse load for the beam will be
 - (A) 9.656 Mp/L
 - (B) 11.656 Mp/L
 - (C) 4 Mp/L(D) 12 Mp/L
- 6. According to IS specifications, the minimum depth of foundation in sand and clay should be respectively



- (A) 1000 mm and 1200 mm
- (B) 1000 mm and 800 mm
- (C) 800 mm and 900 mm
- (D) 700 mm and 900 mm







- The rate of consolidation
 - (A) Increases with increase in temperature
 - Is independent of temperature (B)
 - (C) Increases with decrease in
- temperature
- (D) None of the above
- 8. A continuous beam is deemed to be a deep beam when the ratio of effective span to overall depth is less than



- (C) 2.0
- (D) 2.5
- The design wind speed is assumed to 9. be constant from the mean ground level upto a height of
 - 20 m (A) J(B) 10 m
 - (C) 4 m
 - (D) 8 m

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- 10. The ratio of the undisturbed shear strength to the remoulded shear strength in cohesive soils under undrained conditions is

- (A) 1
- (B) Between 0 and 1
- Greater than 1 (C)
- (D) Zero

In case of well foundation, grip length 11.

is defined as the

3



- (A) Length below the top of the well
 - cap to the cutting edge
 - (B) Length between the bottoms of the

well cap to the cutting edge

- (C) Depth of the bottom of the well below the maximum scour level
- (D) Depth of the bottom of the well below the minimum scour level

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12.	The equation of a parabolic arch of	15. 7	The degree of freedom of a block type
	span 'L' and central height h is given by	n	nachine foundation is
	(A) $y = 8h \times (L - x)/L^2$	(,	A) 2
	6.2°B	(.	B) 3
	(B) $y = 3h \times (L - x)/L^2$	(C) 6
	(C) $y = h \times (L - x)/L^{2}$	()	D) 4
	(D) $y = 4h \times (L - x)/L^2$	16. I	norganic soils with low compressibility
	ARTIN, IS	a	re represented by
13.	Residual soils are formed by	(4	A) MH
	(A) Weathering of the parent rocks	(]	B) SL
	(B) Wind	((C) CH
	(C) Water	_(I	D) ML
	(D) Glaciers		
	1	17. L	ime stabilization is very effective in
14.	Eigen values of a square matrix are	tı	reating
	always	L	A) Plastic clayey soil
	(A) Real and imaginary	/1	
	(B) Positive	()	B) Non-cohesive
	(C) Negative	((C) Silty soil
	(D) Both negative and positive	(I	D) Sandy soil
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- 41. If the building height greater than 50 m, but less than or equal to 250 m, then the building is known as
 - (A) Medium rise building
 - (B) Low rise building

(C) Ta

- Tall building
- (D) Super tall building
- 42. The shear lag effect in beam flanges are disregarded when the outstand of the beam flange is less than or equal to
 - (A) Lo/10
 - (B) Lo/20 (C) Lo
 - (D) Lo/15
- 43. When the plastic limit of a soil is greater than the liquid limit, then the plasticity index is reported as

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- (A) Zero
- (B) 1
- (C) Negative
- (D) Positive
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- 44. The rotational stiffness coefficient K₁₁
 for the frame having two members of
 equal EI/L is given by
 - (A) 7 EI/L
 - (B) 9 EI/L
 - (C) 8 EI/L
 - (D) 6 EI/L
- 45. Total number of stress components at a point within a soil mass loaded at its boundary is
 - (A) 6
 - (B) 9
 - (C) 18 (D) 12
- 46. The fixed support in a real beam becomes in the conjugate beam as
 - (A) Free support
- (B) Hinged support
- (C) Roller support
- (D) Fixed support
- [P.T.O.

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47. A slab is designed as one way if the

ratio of long span to short span is

- (A) Greater than 3
- (B) Between 2 and 3
- (C) Between 1 and 1.5



(D)

- Greater than 2
- 48. For economical spacing of roof truss, if t, p, r are the cost of truss, purlin and roof coverings respectively, then

- (A) t = 2p + r
- (B) t = 3p + 2r

(C) t = p + 2r



(D) t = p + 3r

- **49.** In an internally indeterminate truss if the area of cross section of a redundant member is double
 - (A) The force in that member will be twice
 - (B) The force in that member will not be affected
 - (C) The force in that member will be four times
 - (D) The force in that member will be halved



- **50.** Which of the following losses of pre-stress occurs only in pre-tensioning and not in post-tensioning ?
 - (A) Elastic shortening of concrete
 - (B) Shrinkage of concrete



- (C) Loss due to friction
- (D) Creep of concrete