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# Sample Question Bank

## Design of Bridge

Question
In a single span bridge, the clear span is the distance between
Which one of the following is not the correct statement for ideal bridge sites
Which IRC loading is adopted for temporary structures and timber bridges?
What is the first stage in traffic engineering studies?
The dispersion of wheel load may be assumed to be _____ through wearing coat
The Reinforced concrete slab type decks as super structure is economical for spans upto
The essential feature of pneumatic caissons is _____
An open _____ is a convenient form of foundation for Bridge piers.
Metallic bearings is to be provided for skew bridges with skew angle
Calculate the shape factor S of the elastomeric bearing of size 320mmX 630mm and thickness is 30mm.
A bridge of more than _____ span is treated as long span bridge.
A culvert has span less than
Calculate impact factor for IRC Class A or Class B loading on RCC Bridge of span 10m, constant A is 4.5 and constant B is 6.
The standard IRC loads specified in IRC _____
The longitudinal girders are spaced at intervals of _____
A _____ caisson is open at top and closed at bottom.
For a major bridge usually the type of foundation is
Calculate Stress due to buoyancy acting on semicircular Pier of having area of the pier at Top- 21.5 m <sup>2</sup> area of the pier at bottom 42.00 m <sup>2</sup> , and height of pier upto water level is 9m
In Bridges with curved alignment which following bearing are adopted for supporting curved decks
Which type of bearing is used only for long span bridges in view of their cost?

Masonry arch bridges are used to span less than

A bascule bridge is a

A longitudinal forces result from vehicles braking and accelerating while travelling on a bridge is assumed to be applied at \_\_\_\_\_ height above the level of the deck.

Width of foot path generally vary between \_\_\_ on volume and importance of pedestrian

In case of bridge greater than 10.7m in height and which cannot be inspected from beneath due to watery situation the instrument suited for inspection work is?

Wing walls and return walls are provided to retain

The most suitable foundation for a culvert is

Calculate water current force acting on semicircular Pier of 2m top width at water level and base width of 4.0m and height of pier upto water level is 9m. Constant  $K=0.66$  and velocity of water is 3m/s

Steel plates are provided in Laminated Elastomeric Bearings to

Which type of bearing accommodates both rotation and translation through deformation of the elastomer?

<b>A</b>	<b>B</b>	<b>C</b>
Centres of Abutments	Inner faces of Abutments	Outer faces of Abutments
Be narrow	Should not possess high banks	Direct alignment of road
IRC Class AA Loading	IRC Class 70 R Loading	IRC Class A Loading
Traffic volume studies	Spot speed studies	Speed and delay studies
60 degree	45 degree	30 degree
10m	8m	12m
Removing water by Compressed air	Skin friction is zero	None of the mentioned
Monoliths	Cylinder	Multiple wells
less than 20 degrees	more than 20 degrees	more than 30 degrees
3.536	4.256	3.789
30 m	60 m	90 m
3 m	6 m	9 m
0.28	0.3	0.15
5	6	18
3m	4 to 5m	2 to 2.5m
Wells	Pneumatic caissons	Cylinders
grillage foundation	spread foundation	well foundation
52.40 N/mm <sup>2</sup>	58.18 N/mm <sup>2</sup>	63.54 N/mm <sup>2</sup>
Sliding Cum Rocker Bearing	Steel Roller Cum Rocker Bearing	R.C. Rocker Cum Roller Bearing
Rocker Bearing	Cast Steel Hinge	Mild Steel Rocker Bearing

3 m	3 to 15 m	15 to 20 m
fixed bridge	movable bridge	Deck bridge
1.5m	2.0m	1.2m
1.5m – 3.0m	1.2m – 2.0m	3.0m – 4.0m
Electrical resistance meter	Strain gauges	Barins snooper vehicle
Earth on approaches	ballast	Track on approaches
spread foundation	pile foundation	well foundation
673.62KN	542.83KN	833.76KN
prevent the rubber layers from bulging	Increase ductility	Increase axial load capacity
Rocker Bearing	Cast Steel Hinge	Mild Steel Rocker Bearing

<b>D</b>	<b>Correct Answer</b>	<b>Marks</b>
Width of Abutment	B	2
Be geologically sound	B	2
IRC Class B Loading	D	2
Origin and destination studies	A	2
15 degree	B	2
15m	B	2
All of the mentioned	A	2
Cofferdam	B	2
none of the above	A	2
2.956	A	2
120 m	D	2
12 m	B	2
0.2	A	2
27	B	2
5m	C	2
Box caissons	D	2
caisson foundation	C	2
69.75 N/mm <sup>2</sup>	B	2
Rocker Bearing	A	2
Elastomeric Bearing	C	2

20 to 30 m	B	2
Through Bridge	B	2
1.6m	C	2
2m – 3.2m	A	2
Rain gauges	C	2
none of the above	A	2
caisson foundation	A	2
734.23KN	C	2
restrict lateral movement	A	2
Elastomeric Bearing	D	2