Must Watch Before Interview

Part-1

100 TOP

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Interview Questions

&

Answers

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No.1 – What is IRC?

Ans:- The Full Form of IRC is Indian Road Congress.

No.2 – Maximum Width of Vehicles As per IRC?

Ans:- 2.44mtr.

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No.3 – What is the width of shoulder as per IRC?

Ans:- 2.5mtr.

No.4 – What is the level tolerance in sub grade (for flexible pavement) ?

Ans:- +_20mm.

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No.5 – What is the Coefficient of Longitudinal friction as per IRC?

Ans:- Longitudinal friction (f) ∝ 1/speed.

No.6 – What is the Coefficient of lateral friction as per IRC?

Ans:- Lateral friction (LƒŠ) = 0.15.

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No.7 – Recommended Coefficient of Longitudinal friction as per IRC?

Ans:-

Speed	Longitudinal friction
20-30kmph	0.40
40kmph	0.38
50kmph	0.37
60kmph	0.36
65kmph	0.36
80kmph	0.35
100kmph	0.35

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No.8 – Width of Carriage way or main road?

LANE	CARRIAGE WAY WIDTH
Single Lane	3.75mtr
Two Lane without raised kerb stone	7.5mtr
Intermediate carriageway	5.5mtr
Two lane with raised kerb stone	7.5mtr
Multilane Pavement	3.5mtr

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No.9 – Total Reaction Time as per IRC?

Ans:- For stopping sight distance – 2.53sec.

For overtaking sight distance – 2sec.

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No.10 – Maximum design speed for different roads?

Roads	Plain	Rolling	Mountain
1).National Highway or state highway	100km/hr	80km/hr	50km/hr
2). Major district roads	80km/hr	65km/hr	40km/hr
3). Other district roads	65km/hr	50km/hr	30km/hr
4). Village roads	50km/hr	40km/hr	25km/hr

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No.11 – What is Kerb?

Ans:- Kerb is concrete blocks. It is two types:-

i). Semi – barrier type – 15cm(height).

ii). Barrier type – 20cm (height).

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No.12 – What are the types of Pavements?

Ans:- There are two types of pavements:-

i). Flexible Pavements.

ii). Rigid Pavements.

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No.13 – Difference between Rigid Pavements & Flexible Pavements?

Flexible Pavements	Rigid Pavements.
i). Deformation in the sub grade is transferred to the upper layer.	i). Deformation in the sub grade transferred to the subsequence layer.
ii). Have low flexural strength.	ii). Have high flexural strength.
iii).Have low completion test but high repairing cost.	iii). Have low repairing cost but high completion test.
iv). Damaged by oil & chemicals.	iv). No Damaged by oil & chemicals.
v). Design based on load distribution factor.	v). Design based on Flexural strength.

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No.14 – What is the difference between OGL & NGL?

NGL:- The 1st level taken of the natural ground without using any mechanical means is called NGL.

OGL:- The level taken after preparation of bed by using mechanical means (graders & rollers) is called OGL.

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No.15 – Why dowel bars is being provided PQC Pavements?

Dowel bars are required at expansion joints to transfer wheel loads to the adjacent slab.

No.16 – What is the clearance distance between LVUP, VUP & CUP?

a). VUP – 5.5mtr. B). LVUP – 3.5mtr. C). CUP – 3mtr.

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No.17 – What is Sub base and Sub grade in Flexible Pavements?

Sub Base:-

Sub base course is the first layer which is constructed immediately after the sub grade such as GSB & WBM etc.

Sub Grade:-

Base course is sandwich layer between wearing course & sub base course. Base can have multiple layer such as CTB & WMM.

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No.18 – Why the mastic is being provided on deck slab?

Mastic is a protective asphalt layer. It is usually used as the protective layer of the bridge pavement.

No.19 – Define Expressway?

The roads on which only fast moving vehicles like car & jeeps are classified and usually higher in comparison of national highway are known as Expressway.

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No.20 – What is Camber?

The transverse slope given to the road surface to drain off rain water from the road surface is called camber

No.21 – Types of cambers?

i). Parabolic Camber.
ii). Straight Camber.
iii). Combined Parabolic & Straight Camber.

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No.22 – Camber recommended in Cement concrete roads?

1 in 50 (2%) to 1 in 60 (1.7%).

No.23 – Camber recommended in Bituminous roads?

1 in 40 (2.5%) to 1 in 50 (2%).

No.24 – Camber recommended in WBM roads?

1 in 33 (3%) or 1 in 40 (2.5%).

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No.25 – Define OSD?

The distance visible to the driver of a vehicles intending to overtake another slow moving vehicles, without causing any possibility of accidents to the traffic in the opposite direction.

No.26 – Define SSD?

Stopping sight distance is the minimum distance required in which a vehicles moving at designed speed can be stopped without colliding with a stationary objects on the road surface.

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No.27 – Define Slight distance?

It is the actual length of road over which a driver sitting at a specified height in a vehicle can see objects either moving on the road surface.

No.28 – Slight distance depending upon the situation?

i). Stopping sight distance.
ii). Sate overtaking slight distance.
iii). Slight distance at intersection.

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No.29 – Define Dual carriageway?

Each portion of the carriageway is reserved for traffic moving in opposite direction. Such carriage way are called dual carriageway.

No.30 – Width of carriageway in meter of two lane highway?

State highway – 7.0mtr.

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No.31 – Define obligatory point?

Obligatory point are such points which act to control points in highway alignment.

No.32 – What are special considerations for hill road alignment?

i). Stability.
ii). Drainage.
iii). Geometric standard.
iv). Resisting length.

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No.33 – What are the fundamental principle of alignment?

i). Length of road should be shortest.
ii). The proposed road should form a most economical line.

No.34 – What are two types of road project?

i). A new highway project.
ii). Re- alignment of highway project.

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No.35 – What are the function which control the selection of alignment?

i). Volume & types of traffic.
ii). Obligatory points.
iii). Canal river or railway crossings.
iv). Geotechnical standard to be adopted.

No.36 – What is the workability of PQC?

Ans:- 25mm.

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No.37 – What are the head involved in highway geometric?

i). Cross section elements like – cambers & super elevation.
ii). Slight distance like stopping sight & overtaking slight distance.
iii). Horizontal & vertical alignments.

No.38 – What is the minimum % compaction requirement for embankment & Sub grade?

For embankment 95% & for sub grade 97% relative compaction is required.

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No.39 – Define reaction time?

It is the time in seconds which a driver can take from the instant the objects visible to him to the instant the brakes are effectively applied.

No.40 – Define perception period?

Perception period is the time taken by an average driver to realize a danger ahead before actually trying to apply the breaker.

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No.41 – Define vertical curve?

The curve in the longitudinal section of a highway used to provide an easy change of the gradient.

No.42 – Define horizontal curve?

It is a curve in plan to provide change in the direction of the control time by the road surface.

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No.43 – Curve used in highway?

i). Circular curve.
ii). Transition curve.
iii). Parabolic curve.

No.44 – Effects of centrifugal force?

i). Tendency to overturn the vehicles.
ii). Tendency to skid the vehicles laterally.

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No.45 – Reaction between super elevation, continuant of friction & centrifugal force?

$e + f = v^2 / 127R$

e – Super elevation whose value is taken as 40 or 1/15.
F – Lateral frictional coefficient.
r – Radian of curve in meters, g = 9.8
v - Speed of vehicles in m/sec.

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No.46 – Define design speed?

The speed which is permissible for safe & comfortable driving on a given surface of the highway.

No.47 – Define Right of way (ROW)?

Area acquired along the road alignment is called right of way (ROW).

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No.50 – What is hard Shoulders?

The side area of motor way or other roads where we are allowed to stop it, if our cars break down. It is generally separated by white line.

No.51 – Why the saw cut joint is provided in road kerb?

Saw cut helps control Cracking occurs due to shrinkage in kerbs.

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No.52 – What is the reasons for bleeding in flexible pavements?

The main reasons for bleeding in flexible pavements is excess of bitumen in bituminous mix.

No.53 – Minimum Bitumen content in DBM & BC for Grade I?

DBM 4% & 5.2%

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No.54 – X- section of the pavements?

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No.55 – What is carriage way?

The width of road used by the traffic for moving on it. It is generally the central position of the total land width.

No.56 – Which type of Emulsion is used in tack coat & prime coat?

In tack coat – RS1 & in prime coat – SS1.

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No.57 – What is the median width in raised condition in plain, mountainous and steep terrain?

In Plane Area generally – 5.0mtr.

In Built –up area – 2.5mtr.

In mountainous & steep terrain – 2.5mtr.

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No.58 – Role of separation members in rigid pavement?

i). It avoid the possibilities of active aggressive agents from soil water being attachment to the concrete slab.

ii). It reduces friction b/w sub – base & concrete.

iii). It avoid the mixing up of sub base materials & freshly placed concrete.

iv). It prevents the loss of cement & water in concrete.

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No.59 – What is bumping & pumping in concrete?

i). A bumping/pumping in sub grade is similar to the concept to trying to compact something on mattress means when soil compactor rolls over a prepared sub grade soil, It got compacted with staggered line but when rollers cross over, soil returns to its original position. This type of phenomenon occurs when moisture present in prepared bed.

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No.60 – What is the reason for rutting?

5 main reason for rutting:-

i). Heavy traffic axle.
ii). High temperature & using Vg 30 bitumen.
iii). Higher bitumen content.
iv). More fines bituminous surface.
v). Less air voids in bituminous surface.

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No.61 – What is the role of PVC dowel sheets?

It serves to facilitate the movements of dowel bars.

No.62 – What is the role of joint sealant?

It seals the joint width & prevent water & dirt from entering the joints & causing dowel bars corrosion & unexpected joints stress resulting from restrained movements.

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No.63 – What is the role of tie bar?

It prevents lanes from separation & differential deflections & transverse cracking.

No.64 – Minimum right of way should be available for 4 laning & 6 laning project as per IRC SP 84 – 2014 & IRC SP87 – 2013?

As per IRC SP 84 -2014 & IRC Sp87 – 2013
A minimum ROW for development of a 4laning & 6laning - 60mtr.

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No.65 – Minimum design speed for service road?

Minimum design speed for service road shall be adopted 40km/hr.

No.66 – What is Super elevation?

The outer edge of the road in raised above the inner edge is called super elevation or cant or banking.

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No.67 – For how many period flexible pavements design should be done?

A Minimum design period is 15yrs & operation period is more.

No.68 – For how many period rigid pavements design should be done?

A Minimum design period is 30yrs & operation period is more.

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No.69 – Minimum width of shoulders as per IRC?

As per IRC it is 2.5mtr.

No.70 – Minimum spacing between contraction joints?

A Minimum spacing is 4.5mtr.

No.71 – Minimum spacing between expansion joints?

A Minimum spacing is 140mtr.

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No.72 – The roads connecting capital cities of state?

National Highway.

No.73 – Most suitable soil for backfilling in water logged area?

Cohesive soil.

No.74 – Effects of excessive flexural stress in cc Pavement?

It leads to Pavement cracks.

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No.75 – Maximum bitumen content in mastic asphalt?

14 to 17%.

No.76 – MSS stand for?

Mix seal surfacing.

No.77 – IRC was formed in?

In 1928

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No.78 – Maximum bitumen content in mastic asphalt?

14 to 17%.

No.79 – MSS stand for?

Mix seal surfacing.

No.80 – IRC was formed in?

In 1928

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No.81 – Reaction time in stopping sight distance?

2.5sec.

No.82 – SSD stand for?

Long distance + Breaking distance.

No.83 – Minimum length of overtaking zone?

3 x OSD.

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No.84 – Maximum length of overtaking zone?

5 x OSD.

No.85 – Specific gravity of bitumen?

0.97 to 1.02

No.86 – Specific gravity of Tar?

1.1 to 1.5.

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No.87 – Width of Single lane bridge?

4.25mtr as per IRC.

No.88 – Width of double lane bridge?

7.5mtr as per IRC.

No.89 – Intermediate sight distance?

2 x SSD.

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No.90 – Value of radian of simple curve?

Radian ® = 1720meter approx.

No.91 – Define compound curve?

It is more simple curve that run in the same direction & joint at common tangent point.

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No.92 – Define reverse curve?

It consist of two simple curve opposite direction that point at the common tangent point. This point is called reverse curve.

No.93 – Characteristics of transition curve?

i). It should meet the straight path tangentially.
ii).It should meet the circular curve tangentially.

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No.94 – Types of transition curve?

i). True Spiral transitional curve.

ii). Cubical Spiral transitional curve.

iii). Cubic Parabolic transitional curve.

iv). Lemniscates transitional curve.

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No.95 – Types of vertical curve?

i). Summit curve.

ii). Valley curve.

No.96 – Minimum radian of vertical curve?

$R = L/Q$

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No.97 – What is a gradient?

It is the rate of rise or fall of road levels along its length.

No.98 – Types of gradient?

i). Maximum gradient.
ii). Puling gradient.
iii). Limiting gradient.
iv). Exceptional gradient.

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No.99 – Disadvantages of exceptional gradients?

i). More fuel consumption.
ii). More friction loses.
iii). Efficiency of engine reduces.
iv). Early fatigue to animals.

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No.100 – Types of Joint provided in cement concrete pavements?

i). Expansion joints.
ii). Contraction joints.
iii). Warping joints.
iv). Construction Joints.
v). Longitudinal Joints.