

Model Question Paper -1 with effect from 2020-21(CBCS Scheme)

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Fifth Semester B.E. Degree Examination HIGHWAY ENGINEERING

TIME: 03 Hours

Max. Marks: 100

- Note: 01. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.
02. Assume the missing data as per IRC codes.

Module – 1			Marks
Q.1	(a)	What are the different modes of transportation? Discuss along with their importance.	8
	(b)	Explain the characteristics of Road transport.	4
	(c)	List the Jayakar committee recommendations and how are they implemented?	8
OR			
Q.2	(a)	Write about the different road development plans and policies.	10
	(b)	Elaborate salient features of VISION 2021.	10
Module – 2			
Q.3	(a)	Explain the concept of determining the overtaking sight distance.	8
	(b)	Calculate the stopping sight distance for a NH with design speed 100kmph.	8
	(c)	Write a note on the requirements of an ideal alignment.	4
OR			
Q.4	(a)	Design the super-elevation for a state highway with a design speed of 80kmph at a curved section with radius 250m.	6
	(b)	What concept is involved in extra widening?	7
	(c)	Briefly write about the engineering surveys required in finalizing an alignment.	7
Module – 3			
Q.5	(a)	What are the desirable properties of aggregates? List the tests involved in determining these properties.	10
	(b)	Define Tar, Bitumen, cutback bitumen and emulsion.	10

OR			
Q.6	(a)	Differentiate between flexible and rigid pavements.	8
	(b)	Draw a neat sketch of a flexible pavement section representing all the layers.	4
	(c)	Explain the concept of determining ESWL by graphical method.	8
Module – 4			
Q.7	(a)	With the help of a neat diagram, explain the method of determining the aggregate mixes by Ruthfutch method.	10
	(b)	Elaborate the construction procedure and field tests of Bituminous mixes in flexible pavement construction.	10
OR			
Q.8	(a)	Give a brief on Granular sub base and Bituminous base.	8
	(b)	What are the functions of wearing course and aggregate base layer in flexible pavement?	4
	(c)	Elaborate the construction procedure of rigid pavement.	8
Module – 5			
Q.9	(a)	Demonstrate using neat figures the purpose and functioning of surface drainage systems.	10
	(b)	Explain the methods of reducing the water table level in the construction of pavements.	10
OR			
Q.10	(a)	Discuss the various quantifiable and non quantifiable benefits to the road users due to highway development project.	10
	(b)	Write a note on Highway financing.	10

Table showing the Bloom's Taxonomy Level, Course Outcome and Programme Outcome			
Question	Bloom's Taxonomy Level attached	Course Outcome	Programme Outcome
Q.1	(a)	L1	1
	(b)	L1	1
	(c)	L1	1,2
Q.2	(a)	L1	1
	(b)	L2	1,3,12
Q.3	(a)	L1	1,3
	(b)	L2	1,3
	(c)	L1	1,3
Q.4	(a)	L1	1,3
	(b)	L1	1,3
	(c)	L1	1,3
Q.5	(a)	L1	2
	(b)	L1	2
Q.6	(a)	L1	2,3
	(b)	L1	2,3
	(c)	L3	2,3
Q.7	(a)	L2	2
	(b)	L1	2
Q.8	(a)	L1	2,3
	(b)	L1	2,3
	(c)	L1	2,3
Q.9	(a)	L1	4
	(b)	L1	4
Q.10	(a)	L1	4
	(b)	L1	4
Bloom's Taxonomy Levels	Lower order thinking skills		
	Remembering(knowledge): L_1	Understanding Comprehension): L_2	Applying (Application): L_3
	Higher order thinking skills		
	Analyzing (Analysis): L_4	Valuating (Evaluation): L_5	Creating (Synthesis): L_6

