

Model Question Paper-1/2 with effect from 2021(CBCS Scheme)

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Sixth Semester B.E. Degree Examination Subject Title: Traffic Engineering

TIME: 03 Hours

Max. Marks: 100

- Note: 01. 02. Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.
03.
04.

Module -1			*Bloom's Taxonomy Level	COs	Marks														
Q.01	a	Explain the scope of Traffic Engineering.	L2	01	08														
	b	A vehicle of weight 2000 Kg has to accelerate at 3 m/Sec^2 in the first gear from 10Kmph to 20Kmph. The gradient is + 1% and the rolling resistance is 0.02. The frontal area is 2 Sq.m and the coefficient of air resistance is 0.39. The radius of the tires is 0.33m and the deformation factor is 0.935. The transmission gear ratio and rear axle gear ratio are 2.78:1 and 3.82:1 respectively. Determine the engine horse power needed and the speed of the engine if the transmission efficiency is 0.9	L3	01	12														
OR																			
Q.02	a	Enumerate the objectives and uses of Traffic volume studies.	L2	01	08														
	b	Enumerate the applications of O and D studies.	L2	01	05														
	c	Explain the floating car method of conducting speed and delay studies.	L2	01	07														
Module-2																			
Q. 03	a	Explain (i) Level of service (ii) Desire line diagram (iii) License plate method.	L2	02	06														
	b	Define (i) Average speed (ii) Running speed (iii) Space mean speed (iv) Time mean speed.	L2	02	06														
	c	Define (i) Time headway (ii) Space headway	L2	02	08														
OR																			
Q.04	a	Following data were obtained from the spot speed studies. Suggest (i) Speed limit for regulation (ii) Lower speed causing congestion (iii) Speed to check geometric design elements.	L3	02	12														
		<table border="1"> <tr> <td>Speed Group (KMph)</td> <td>5 -10</td> <td>10 -15</td> <td>15 -20</td> <td>20 -25</td> <td>25 -30</td> <td>30 -35</td> </tr> <tr> <td>No of Vehicles</td> <td>230</td> <td>375</td> <td>500</td> <td>680</td> <td>525</td> <td>430</td> </tr> </table>	Speed Group (KMph)	5 -10	10 -15	15 -20	20 -25	25 -30	30 -35	No of Vehicles	230	375	500	680	525	430			
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No of Vehicles	230	375	500	680	525	430													
	b	Explain the advantages of moving observer method.	L2	02	08														
Module-3																			
Q. 05	a	List four differences between vehicles actuated signal and synchronized signal.	L2	02	10														
	b	Write short notes on Traffic regulations.	L2	02	10														
OR																			
Q. 06	a	Explain the importance of channelization in ensuring smooth traffic with neat sketches.	L2	02	10														

	b	Write short notes on Signal coordination.	L2	02	10
Module-4					
Q. 07	a	Indicate and explain how the spacing of street lighting is decided.	L2	03	10
	b	Explain road side arboriculture	L2	04	10
OR					
Q. 08	a	Describe the main functions of traffic control devices	L2	03	10
	b	Explain the vehicular abatement measures followed in India.	L2	04	10
Module-5					
Q. 09	a	Explain the importance and applications of ITS in traffic engineering.	L2	04	10
	b	Explain the concept of road pricing. How does it help in travel demand management?	L2	04	10
OR					
Q. 10	a	What is TDM? What are the direct and direct methods of TDM?	L2	04	10
	b	Write short notes on One-way streets by highlighting its advantages and disadvantages.	L2	04	10

*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.