	Q.P. Co	<b>de:</b> 200	CE012	20										<b>R2</b> (	2.2.5	
	Reg. N	lo:	1000		- 20	hereiter					·	-				
	8	IDDII						CINE								
	1	SIDDH.	ART	H INS	TITU	TE O	FEN	GINE	ERI	NG &	TEC	HNC	DLOGY::	PUTTU	<b>K</b>	
		E	3.Tec	h III Y	'ear l	Sem	ester	Real	lar l	Exami	natio	ons	March-20	23		
		CO5			TR	ANSP	ORT	ATIO	N EN	GINE	ERI	NG	elmo son r	e coato a		
							(Civ	il Engi	ineer	ing)						
	Time: 3	hours					, i i			0,				Max. M	larks: 6	50
					(A	newer	all Fi	ve Un	ite 5	v 17 -	- 60 N	Iarks	2)			
					(23	.113 W C1		UN	NIT-I		- 00 1	ai K	<i>)</i>			
1	a Explain	n any f	our h	ighwa	y cros	ss-sect	ional	eleme	nts.					CO1	L1	6M
	b Derive	an exp	pressi	on for	extra	wider	ning in	n a hoi	rizon	tal cui	ve.			CO1	L2	6M
								(	OR							
2	A valley	curve	is for	med b	y a d	escend	ding g	gradier	nt of	1 in 4	0 me	eeting	g with an	CO1	L3	12M
	ascending	g gradi	ent c	of 1 in	30. ]	Design	the	length	of r	valley	curv	e for	a design			
	speed of 120 kmph so as to fulfill both comfort conditions and head light sight															
	distance	requir	emer	nts. A	ssume	e rate	e of	chang	e of	f char	ige o	of c	entrifugal			
	accelerati	ion as (	).6 m/	/sec <sup>3</sup> , r	eactio	on tim	e 1.5 s	sec and	d coe	fficier	t of f	rictio	on 0.30.			
								UN	IT-I	9						
3	The resul	ts of a	speed	l study	are g	iven i	n the	form o	of a f	requer	ncy d	istrib	oution	CO2	L3	12M
	table. Fin	d the t	ime r	nean s	peed	and sp	ace m	iean sp	beed.							
		No.	Sp	beed ra	nge	Aver	age sp	beed (N	/i)	Frequ	ency(	$(\mathbf{q}_i)$				
		1		2-5			3.5	5			1					
		2	_	6-9			7.5	5			4					
		3		10-13			11.	5			0					
		4		14-1/			15.	5			1					
								(	OR							
4	a Explain about the various types of on-street parking patterns possible.						е.	CO2	L1	6M						
	b What	are th	e dif	ferent	type	es of	off-st1	reet p	arkir	ng fac	ilities	s tha	it can be	CO2	L1	6M
	provide	ed in a	giver	ı area?						-						
								UN	IT-II	I						
5	Draw a s	sketch	of fl	exible	pave	ment	cross	sectio	on ai	nd sho	ow th	ne co	omponent	CO3	L2	12M
	parts. Enumerate the Functions and importance of each component of the															
	pavement	t.														
								(	OR							
6	A cement	t concr	ete p	aveme	nt ha	s a thi	cknes	s of 25	5 cm	and la	ane w	vidth	of 2.5 m.	CO4	L3	12M
Design the tie bars Along the longitudinal joints using the data given below:																
	Allowable working stress in steel tie bars, $Ss = 1050 \text{ kg/cm}^2$															
	Unit weight of CC, $W = 2400 \text{ kg/cm}^3$															
	Maximum value of friction coefficient, $f = 1.2$															
	Allowable tensile stress in deformed the bar, $Ss = 2000 \text{ kg/cm}^2$															
	Allowable	e bond	stres	s in de	forme	ed bar	s, Sb =	= 24.6	kg/ci	n²						

Q.P. Code: 20CE0120	<b>R20</b>		
UNIT-IV			
a Discuss briefly about the functions of different components of permanent	CO5	L2	6M
way.			
b What are the advantages and disadvantages of steel sleepers?	CO5	L1	<b>6</b> M
OR			
a Define creep in the rails. Explain various causes of creep.	CO5	L2	6M
b What are the requirements of good ballast?	CO5	L1	<b>6</b> M
UNIT-V			
a Define grade compensation? If the ruling gradient is 1 in 120 on a particular	CO6	L2	<b>6</b> M
section of MG and at the same time a 2.6 degree curve is situated on this			
ruling gradient, find out the allowable ruling gradient.			
b Discuss briefly the purpose for which railway stations are provided.	CO6	L2	<b>6</b> M
OR			
a Draw a neat sketch of Left hand turnout and show various parts of turnout.	CO6	L2	<b>6</b> M
b Explain the classification of gradient in railways.	CO6	L2	6M
	<ul> <li>Q.P. Code: 20CE0120</li> <li>UNIT-IV</li> <li>a Discuss briefly about the functions of different components of permanent way.</li> <li>b What are the advantages and disadvantages of steel sleepers? <ul> <li>OR</li> </ul> </li> <li>a Define creep in the rails. Explain various causes of creep.</li> <li>b What are the requirements of good ballast? <ul> <li>UNIT-V</li> </ul> </li> <li>a Define grade compensation? If the ruling gradient is 1 in 120 on a particular section of MG and at the same time a 2.6 degree curve is situated on this ruling gradient, find out the allowable ruling gradient.</li> <li>b Discuss briefly the purpose for which railway stations are provided. <ul> <li>OR</li> </ul> </li> <li>a Draw a neat sketch of Left hand turnout and show various parts of turnout.</li> <li>b Explain the classification of gradient in railways.</li> </ul>	Q.P. Code: 20CE0120       IUNIT-IV         a Discuss briefly about the functions of different components of permanent way.       CO5         b What are the advantages and disadvantages of steel sleepers?       CO5         oR       CO5         a Define creep in the rails. Explain various causes of creep.       CO5         b What are the requirements of good ballast?       CO5         a Define grade compensation? If the ruling gradient is 1 in 120 on a particular section of MG and at the same time a 2.6 degree curve is situated on this ruling gradient, find out the allowable ruling gradient.       CO6         b Discuss briefly the purpose for which railway stations are provided.       CO6         OR       OR       CO6         a Draw a neat sketch of Left hand turnout and show various parts of turnout.       CO6         b Explain the classification of gradient in railways.       CO6	Q.P. Code: 20CE0120       INIT-IV         a Discuss briefly about the functions of different components of permanent way.       CO5       L2         b What are the advantages and disadvantages of steel sleepers?       CO5       L1         oR       CO5       L1         a Define creep in the rails. Explain various causes of creep.       CO5       L2         b What are the requirements of good ballast?       CO5       L1         IVIT-V       CO5       L1         a Define grade compensation? If the ruling gradient is 1 in 120 on a particular section of MG and at the same time a 2.6 degree curve is situated on this ruling gradient, find out the allowable ruling gradient.       CO6       L2         b Discuss briefly the purpose for which railway stations are provided.       CO6       L2         OR       CO6       L2         a Draw a neat sketch of Left hand turnout and show various parts of turnout.       CO6       L2         b Explain the classification of gradient in railways.       CO6       L2

\*\*\* END \*\*\*

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- a Explain about the various types of on-street parking patterns possible. CO2. L1 64 b What are the different types of off-street parking facilities that can be CO2. L1 64 provided in a given area?
  - 5 Draw a skatch of flexible pavement cross section and show the component CO3 12 parts. Enumerate the Functions and importance of each component of the savement.

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6 A coment concrete persenent has a thickness of 25 cm and lane width of 2.5 m. CO4 53 12M Design the rie bars Along the longitudinal joints using the tlatt given below: Allowable working stress in speel tie bars, Se - 1050 kg/cm<sup>2</sup>