

USN

15CV552

Fifth Semester B.E. Degree Examination, Dec.2018/Jan.2019 Railways, Harbours, Tunneling and Airports

	Time: 3 hrs.		3 hrs.	Max. Marks: 80
es.		I	Note: Answer any FIVE full questions, choosing ONE full question from	each module.
Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.			Module-1	
nalp	1	a.	Discuss the significance of road, rail, water and air transport.	(06 Marks)
as n		b.	What are the functions and requirements of ballast?	(05 Marks)
ited		c.	Illustrate the constituents of right hand turnout in detail.	(05 Marks)
tres				(00 11241115)
ages II be			OR	
g dr. wil	2	a.	Explain the conventional methods of route alignment survey.	(08 Marks)
blar 50		b.	What should be the equilibrium Cant on a M.G curve of 5° for a	n average speed of
ning +8 =			60 kmph? Also find out the maximum permissible speed after allowing	the maximum Cant
nair , 42			deficiency.	(08 Marks)
e rer				
n the	3	0	Describe the stabilization of tree!	*****
S WI	3	a. b.	Describe the stabilization of track on poor soil. Explain the modern methods of maintenance of railway track.	(08 Marks)
line		Ų.	Explain the modern methods of maintenance of ranway track.	(08 Marks)
ross			OR	
al c	4	a.	Define yards. Explain the types of yards.	(08 Marks)
nogo nud/		b.	Evaluate the quantity of materials required to construct 1.5km long BG	track Take sleener
v dia tor a			Density = $(m + 6)$, Length of Rail = $13m$.	(08 Marks)
drav				(001,111,111)
ily o			Module-3	
ulsor al to	5	a.	List and briefly explain the classification of harbour based on prot	ection needed, and
mpu		h	location	(08 Marks)
, co,		b.	Define tunnel. Explain the shapes of tunnel with neat sketch.	(08 Marks)
vers				
ans	6	0	Describe the commons to Shark an oill	
our	O	a.	Describe the components of harbour with neat sketch.	(08 Marks)
lg y		0.	Write a note on tunnel ventilation and tunnel lining.	(08 Marks)
letin		*	Module-4	
omp	7	a.	Discuss the characteristics of air transport?	(04 Marks)
ny r		b.	Enumerate the classification of airports based on ICAO and FAA.	(04 Marks)
1. C		c.	Mention the objectives of airport planning.	(06 Marks)
 9				(001120110)
No			OR	
tant	8	a.	Sketch the typical airports showing different types of runways.	(08 Marks)
ıodı		b.	Explain the various factors which you would keep in view while selecting	g a suitable site for
In			an airport.	(08 Marks)



Module-5

9 a. Define orientation of runway. Briefly explain the procedure of plotting Type-II wind Rose diagram.

(08 Marks)

b. Explain the different types of Markings used in airport.

(08 Marks)

OR

10 a. Describe the elements of taxiway geometric design.

(08 Marks)

b. Calculate the actual length of runway from the following data:

(i) Airport elevation: R.L 100

(ii) Airport Reference Temperature : 28°

(iii) Basic Runway length: 600 m

(iv) Highest Point along the length: R.L 98.2

(v) Lowest point along the length: R.L 95.2

(08 Marks)