Sec-,

ClitKOD

15C17552

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

Time: 3 hrs. Max. Marks: 80

Note: Answer ***any FIVE full questions, choosing ONE full question from each module.***

ModuleA

1 a. Discuss the significance of road, rail, water and air transport. **(06 Marks)**

b. What are the functions and requirements of ballast? **(05 Marks)**

c. Illustrate the constituents of right hand turnout in detail. **(05 Marks)**

2 a. Explain the conventional methods of route alignment survey. **(08 Marks)**

b. What should be the equilibrium Cant on a M.G curve of 5° for an average speed of 60 kmph? Also find out the maximum permissible speed after allowing the maximum Cant deficency. **(08 Marks)**

Module-2

3 a. Describe the stabilization of track on poor soil. **(08 Marks)**

Explain the modern methods of maintenance of rail way track. **(08 Marks)**

OR

4 a. Define yards. Explain the types of yards. **(08 Marks)**

b. Evaluate the quantity of materials required to construct 1.5km long BG track. Take sleeper Density = (m + 6), Length of Rail = 13m. **(08 Marks)**

Module-3

5 a. List and briefly explain the classification of harbour based on protection needed, and location. **(08 Marks)**

b- Define tunnel. Explain the shapes of tunnel with neat sketch. **(08 Marks)**

OR

6 a. Describe the components of harbour with neat sketch. **(08 Marks)**

b. Write a note on tunnel ventilation and tunnel lining. **(08 Marks)**

Module-4

7 a. Discuss the characteristics of air transport? **(04 Marks)**

b. Enumerate the classification of airports based on ICAO and FAA. **(06 Marks)**

c. Mention the objectives of airport planning. **(06 Marksj**

OR

8 a. Sketch the typical airports showing different types of runways. **(08 Marks)**

b. Explain the various factors which you would keep in view while selecting a suitable site for an airport. **(08 Marks)**

Module-5

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