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Question Paper Code: U1501S

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2025

Professional Elective

Civil Engineering

21CEV501 – RAILWAY AIRPORT AND HARBOUR ENGINEERING

(Regulations 2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Ordinary rails are made of CO1-U
(A) Mild steel (B) Cast iron (C) Wrought iron (D) High carbon steel
2. If the monthly mean of average daily temperature for the hottest month of the year is 25° C and the monthly mean of the maximum daily temperature of the same month of the year is 46° C, the airport reference temperature is CO1-U
a) 32°C b) 35.5°C c) 48°C d) 25°C
3. Number of fish bolts per fish plate is CO1-U
a) 2 b) 4 c) 5 d) 6
4. A ship strikes the berth generally at an angle CO1-U
a) 90° with the face of the dock b) 45° with the face of the dock
c) 30° with the face of the dock d) 10° with the face of the dock
5. Maximum value of 'throw of switch' for Broad Gauge track is CO 2-Ana
a) 89 mm b) 95 mm c) 100 mm d) 115 mm
6. The treadle bar is provided CO2-Ana
a) in the middle of the track a little in front of the toes of the tongue rail
b) near and parallel to inner side of one of the rails
c) at right angle to the rail
d) near and parallel to inner side of both the rails

17. (a) Interpret the various quantity of materials required for BG & MG track laying for 1 Km. Suggest the cost-effective Gauge. **CO2-Ana** (16)
Or
(b) Suggest the various types of rail joints, Rail fixtures and fastening used in an Indian Railway track. **CO2-Ana** (16)
18. (a) Description of Points / Switches with sketches **CO6 -App** (16)
Or
(b) Description of Symmetrical Split Three-throw Switch **CO6-App** (16)
19. (a) Discuss in detail the factors affecting the choice of selection of site for an airport. **CO4- App** (16)
Or
(b) What are the basic patterns of runway configurations? Discuss each pattern. **CO4- App** (16)
20. (a) If you are working in a harbor, For what reasons you adopt Dredging Operation. How dredged Materials are disposed of? List the dredging equipment with neat sketch. **CO5 -App** (16)
Or
(b) Bring out the differences between a port and a harbor. Classify harbors on broad basis. **CO5 -App** (16)

