Student Exam No_____

GANPAT UNIVERSITY

B.TECH- SEMESTER-IV CIVIL ENGINEERING

REGULAR(CBCS) EXAMINATION MAY/JUNE- 2013

SUBJECT: 2CI: 404- BASIC TRANSPORTATION SYSTEMS

Time: 3 Hours | Max Marks: 70

Instructions: - (1) Answer to the two sections must be written in separate answer books.

(2) Figures to the right indicate full marks.

(3) Assume suitable data if required.

SECTION - I

Que 1 **Answer the following Questions.**

(A) Explain Comparison between Railway and Highway transportation. (6)

(B) Discuss the briefly, factors affecting the choice of particular gauge. (6)

OR

Que1 **Answer the following Questions.**

(A) What do you understand by Permanent way? Give requirement of ideal permanent way. (6)

(B) What is ballast? Describes types of ballast. (6)

Que 2 **Answer the following Questions**

(A) Explain theory of coning. (5)

(B) Enumerate the parameters which affect the geometric design. And Define (6)
(i) Ruling gradient (ii) Pusher gradient (iii) Momentum gradient

OR

Que 2 **Answer the following Questions**

(A) What is interlocking and what is its necessity and functions? (5)

(B) Define Crossing and Explain Acute angle crossing and Diamond crossing. (6)

Que 3 **Answer the following questions.**

(A) Enlist the factors should be considered in selecting the site for a station. Explain any two of them. (4)

(B) What is creep of rails? Describes effects of creep. (4)

(C) The first Indian railway was laid in (1)
(a) 1775 (b) 1804 (c) 1825 (d) 1853 (e) 1876

(D) On Indian Railway standard length of rails for B. G. track, is (1)
(a) 10.06 m (b) 10.97 m (c) 11.89 m (d) 12.8 m

(E) Best wood for wooden sleepers is (1)
(a) chair (b) deodar (c) Sal (d) teak (f) shesham

(F) Sand may be used as ballast for, (1)
(a) Wooden sleepers (b) steel sleepers (c) Cast iron sleepers (d) All

SECTION – II

Que 4 **Answer the following Questions.**

(A) Explain component of an Aeroplane with neat sketch. **(6)**

(B) Enlist the different types of survey done before preparing an airport. Explain any two of them. **(6)**

OR

Que 4 **Answer the following Questions.**

(A) Write short note on "Imaginary Surface". **(6)**

(B) Give reasons for the following. **(6)**

(i) The orientation of runway along the head wind is desirable.

(ii) The airport capacity is influenced by a number of factors.

(iii) The calculated basic runway length should be corrected for elevation and temperature.

Que 5 **Answer the following Questions.**

(A) Define harbour. Draw neat sketch of natural and artificial harbour. **(5)**

(B) For the hottest month of the year at the proposed airport site, the mean of the average daily temperature is 44 °C and the mean of the maximum daily temperature is 53 °C. Calculate the airport reference temperature. If the site is at mean sea-level with a level ground, calculate the actual runway length to be provided. **(6)**

OR

Que 5 **Answer the following Questions.**

(A) Write short note on "Rigid Pavement". **(5)**

(B) Why it is necessary to have careful planning and design of the terminal area? **(6)**

Que 6 **Answer the following Questions.**

(A) Differentiate between Nose hanger and T- hanger. **(4)**

(B) Write short note on "Control Towers". **(4)**

(C) What are the aims of airport drainage? Explain function/purposes of airport drainage. **(4)**

"END OF PAPER"