

Seat No: _____

Enrollment No: _____

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Summer 2018 - 19 Examination

Semester: 8

Date: 03/05/2019

Subject Code: 03104481

Time: 10:30am to 1:00pm

Subject Name: Pavement Design & Evaluation

Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1** A). Explain with sketch the functions of different layers of flexible pavement. **(05)**
B) State with reasons in which conditions do you suggest rigid pavement for road construction? **(05)**
C) Discuss about ESWL in details. **(05)**
- Q.2 Answer the following questions.** (Attempt any three) (Each five mark) **(15)**
A) Write a note on CBR method of flexible pavement design.
B) Design the Tie bars for the CC pavement having following data: Slab thickness = 35 cm, Lane width = 3.5m, Coefficient of friction = 1.5, Density of concrete = 2400 kg/m³, Allowable tensile stress in plain bars = 1250 kg/cm², Allowable bond stress = 17.5 kg/cm², Diameter of tie bar = 12mm. Use Guidelines of IRC 58
C) Explain with sketch the functions of different layers of rigid pavement.
D) Differentiate between highway and runway in detail.
- Q.3** A) Explain the procedure of conducting Benkelman beam test? Also discuss its importance in Pavement performance evaluation? **(07)**
B) Enlist various types of failures in flexible pavement. **(08)**

OR

- B) Explain the significance of Joints in rigid Pavement? Discuss types of joints in rigid Pavements? **(08)**
- Q.4** A) Distinguish between rigid & flexible Pavement. **(07)**
- OR**
- A) Explain the fundamental concepts and uses of present serviceability index (PSI) **(07)**
B) Discuss the importance and methods of surface and sub surface drainage in pavement construction? **(08)**