PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
M.Tech. Winter 2018 - 19 Examination

Semester: 1   Date: 12/12/2018
Subject Code: 203215132   Time: 10:30 am to 1:00 pm
Subject Name: Pavement Analysis and Design   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) Write Down Short note on equivalent single wheel load?		**(05)**
B) Difference between rigid and flexible pavement.		**(05)**
C) List out various desirable properties of pavement material?		**(05)**
Q.2 **Answer the following questions.** (Attempt any three) (Each five mark)		**(15)**
A) Write down steps for overlay design for flexible pavement?		
B) Short note on Serviceability Index		
C) Effect of road geometry on drainage?		
D) Short note on Perpetual Pavement		

Q.3 A) Let number of load repetition expected by 60kN standard axle is 1000, 120kN is 200 and 40 kN **(07)** is 10000. Find the equivalent axle load using fatigue cracking as failure criteria according to IRC.
Hint: Nf = 2:21 × 10^{-4} (e$_t$)$^{-3.89}$ E$^{0.854}$

B) Explain Mechanistic-empirical analysis?   **(08)**

OR

B) list out various types of rigid pavement and explain it?   **(08)**

Q.4 A) Brief about method for Removal of rainwater from the carriageway?   **(07)**

OR

A) Explain deflection approach by Benkelman beam method?   **(07)**

B) Explain Specific and accurate information is needed and critical for effective decisions regarding **(08)** pavement design and rehabilitation?