APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

08 PALAKKAD CLUSTER

Q.P.code : TB2181 **(pages: 2)** **Name:**

Reg No:

SECOND SEMESTER M.TECH. DEGREE EXAMINATION APR 2018
Civil (Transportation Engineering)

08CE6204 **PAVEMENT CONSTRUCTION, EVALUATION AND MAINTENANCE**

Max. Marks : 60 **Duration : 3 Hours**

Answer ALL six questions. Part (a) of each question is compulsory.

Answer EITHER part (b) *or* part (c) of each question.

Q.No.		Marks
	Module I	
1a.	What are the benefits of soil stabilization?	**3**
	Answer b *or* c	
b.	Explain the various functions performed by geosynthetics in transportation. Give neat diagrams.	**6**
c.	What are the factors affecting lime and cement stabilization? Write down advantages of both methods.	**6**
	Module II	
2a.	Write a brief note on any three construction equipments used during excavation work.	**3**
	Answer b *or* c	
b.	Explain the step by step procedure involved in the construction of water bound macadam roads.	**6**
c.	What are the various factors to be considered while providing joints in cement concrete pavements? Which are the various joints and where are they provided? Give brief notes on each with neat diagrams.	6

Module III

3a. List out the advantages and limitations of interlocking concrete pavements. **3**

Answer b *or* c

b. Write in detail about the Super pave mix design. What are the advantages of super pave method over existing mix design methods? **6**

c. Give a detailed description of Polymer modified bituminous pavements **6**

Module IV

4a. Differentiate between destructive and Non-destructive testing. **3**

Answer b *or* c

b. Which are the major contributing factors of pavement distresses? List out any six major distresses and their repair strategies. **6**

c. Define i) Pavement distress surveys

ii) Pavement Condition Index

iii) Shahin's deduct value method **6**

Module V

5a. What is roughness? How does it affect pavement performance? How is it quantified? **4**

Answer b *or* c

b. Explain in detail about any two roughness data collection devices. **8**

c. Provide a neat account on the design of overlays using a non-destructive testing method. **8**

Module VI

6a. When is the proper time for Pavement repair, rehabilitation and reconstruction? **4**

Answer b *or* c

b. With a neat diagram explain how different types of maintenance and rehabilitation relate to pavement condition. **8**

c. Briefly explain a few techniques used for preventive and corrective maintenance on flexible pavements. **8**