APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
EIGHTH SEMESTER B.TECH DEGREE EXAMINATION, MAY 2019

Course Code: AU464
Course Name: SPECIAL TYPE OF VEHICLES

Max. Marks: 100
Duration: 3 Hours

PART A
Answer any three full questions, each carries 10 marks.

1 a) Explain with a neat sketch layout of crawler tractor. (6)
   b) What do you mean by planetary steering system? (4)
2 Explain the under carriage construction of a crawler tractor with neat sketch. (10)
3 Describe with neat figures the different final drives (10)
4 What are the different types of hydraulic control valves? Explain with figures (10)

PART B
Answer any three full questions, each carries 10 marks.

5 You are appointed as a site engineer by the Government of Kerala as a part of Thiruvananthapuram- Kasargod water way project. For that your team has to clean up the mud accumulated at various streams like Parvathy Puthanar of Thiruvananthapuram at a faster rate. You have got dragline, dipper and clamshell excavators with your team. Which one you will select and explain in detail about the selected excavator with neat supporting figure (10)
6 What are motor graders? Explain the construction and function with a neat sketch (10)
7 What are the classifications of dump trucks based on the mode of dumping? Explain with neat figures (10)
8 a) Mention any two types of attachments used with forklift trucks? (4)
   b) Explain construction, operation and application of scissors type lift trucks (6)

PART C
Answer any four full questions, each carries 10 marks.

9 Compare in detail between Derrick cranes and tower cranes with the help of neat figures (10)
10 Classify the different types of vibratory roller compaction vehicles accordingly (10)
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<td>11</td>
<td>How the different parameters such as wheel load, inflation pressure and speed influences the performance of pneumatic compactors (10)</td>
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<td>12</td>
<td>Explain the constructional details of a scraper with neat figure (10)</td>
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<td>13</td>
<td>What are the various types of buckets used with loaders? Mention their applications. (10)</td>
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<td>14</td>
<td>Explain the different types of blades used in dozers with supporting figures (10)</td>
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