

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-VIII (NEW) - EXAMINATION – SUMMER 2018**

**Subject Code: 2180203/2180211**

**Date: 04/05/2018**

**Subject Name: Special Purpose Vehicles**

**Time: 10:30 AM to 01:00 PM**

**Total Marks: 70**

**Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

	<b>MARKS</b>
<b>Q.1</b> (a) Explain track type special purpose vehicle.	<b>03</b>
(b) Make a layout of tractor.	<b>04</b>
(c) Explain the working of braking system of special purpose vehicle with neat sketch.	<b>07</b>
<b>Q.2</b> (a) Classify the special purpose vehicle.	<b>03</b>
(b) Explain working principles of transmission system of special purpose vehicle.	<b>04</b>
(c) Draw the sketch showing the construction of an excavator and explain its purpose and working in detail.	<b>07</b>
<b>OR</b>	
(c) Give the classification of tractor and explain power transmission system of tractor.	<b>07</b>
<b>Q.3</b> (a) What does mean by articulated vehicle.	<b>03</b>
(b) Write short note on fire extinguishing vehicle.	<b>04</b>
(c) Explain characteristic of truck crane and explain its design features.	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) Write short note on PTO unit.	<b>03</b>
(b) Explain working principles of lubrication system of special purpose vehicle.	<b>04</b>
(c) Explain purpose, construction and working tipper in detail.	<b>07</b>
<b>Q.4</b> (a) Explain design consideration of electrical system of special purpose vehicle.	<b>03</b>
(b) Write short note on safety device of crane.	<b>04</b>
(c) Explain human factor in special purpose vehicle design with reference to vibration and thermal stress on human performance.	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) Give the advantage and limitation of ripper.	<b>03</b>
(b) Write short note on hover craft.	<b>04</b>
(c) Explain working principle and design consideration of final drive.	<b>07</b>
<b>Q.5</b> (a) Enlist different types of accessories of wheeled tractors use.	<b>03</b>
(b) Write short note on comfort in special purpose vehicle..	<b>04</b>
(c) Draw the sketch showing the construction of loaders and explain its purpose and working in detail.	<b>07</b>
<b>OR</b>	
<b>Q.5</b> (a) Enlist different types crane are used.	<b>03</b>
(b) Explain economics of special purpose vehicle utilization.	<b>04</b>
(c) Explain construction feature of forklift.	<b>07</b>

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