

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2017****Subject Code: 2180203****Date: 02/11/2017****Subject Name: Special Purpose Vehicles****Time: 02:30 PM TO 05:00 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 wheel type special purpose vehicle.	<b>03</b>
	(b) Classify the tractors.	<b>04</b>
	(c) Explain constructional working feature of Bulldozers with neat sketch.	<b>07</b>
<b>Q.2</b>	(a) Discuss about basic characteristics of truck cranes	<b>03</b>
	(b) Make a layout of tractor.	<b>04</b>
	(c) Explain working principles and design considerations of final drive.	<b>07</b>
	<b>OR</b>	
	(c) Explain hydraulic control system of tractor.	<b>07</b>
<b>Q.3</b>	(a) Give different applications of special purpose vehicle.	<b>03</b>
	(b) Write a note on features of oil-tankers.	<b>04</b>
	(c) Explain Constructional working features of ambulance.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) What do you mean by pneumatic control circuits?	<b>03</b>
	(b) Explain design features of mobile cranes.	<b>04</b>
	(c) Explain Economics of special purpose vehicle utilization.	<b>07</b>
<b>Q.4</b>	(a) What do you mean by articulated vehicles?	<b>03</b>
	(b) Brief about stability and control system in mobile cranes.	<b>04</b>
	(c) Explain Constructional working features of shovel.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Give advantages and limitation of forklift.	<b>03</b>
	(b) Explain the working of fire extinguishing vehicle.	<b>04</b>
	(c) Explain working principles and design considerations of steering system.	<b>07</b>
<b>Q.5</b>	(a) Enlist types of earth moving equipments.	<b>03</b>
	(b) What are the effects of noise on human?	<b>04</b>
	(c) Explain working principles and design considerations of lubrication.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Explain thermal stresses on human performance.	<b>03</b>
	(b) Discuss about power take off unit.	<b>04</b>
	(c) Explain Constructional working features of road roller.	<b>07</b>

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