

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE –SEMESTER- VIII- EXAMINATION- SUMMER 2020****Subject Code: 2180211****Date:29/10/2020****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) Discuss about power take off unit.	<b>03</b>
	(b) Write short note on comfort in special purpose vehicle.	<b>04</b>
	(c) Classify the special purpose vehicle and give the application of each.	<b>07</b>
<b>Q.2</b>	(a) Write short note on fire extinguishing vehicle.	<b>03</b>
	(b) Explain the working of hover craft.	<b>04</b>
	(c) Explain purpose, construction and working of Tippers in detail.	<b>07</b>
<b>OR</b>		
	(c) Explain the working of pneumatic brake system with neat sketch.	<b>07</b>
<b>Q.3</b>	(a) What is fifth wheel mechanism?	<b>03</b>
	(b) Give the advantage and limitation of ripper.	<b>04</b>
	(c) What is PTO shaft? Explain 3 standard types of PTO shaft.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Explain Road Roller.	<b>03</b>
	(b) List the types of crane and explain characteristic of truck crane.	<b>04</b>
	(c) Explain working principles of transmission system of special purpose vehicle.	<b>07</b>
<b>Q.4</b>	(a) What is Ergonomics?	<b>03</b>
	(b) Write short note on multi axle vehicles.	<b>04</b>
	(c) Describe dozer. Explain different types of dozer blades.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Which different attachment is used in tractor?	<b>03</b>
	(b) Different between wheel and track type vehicle.	<b>04</b>
	(c) Explain working principle and design consideration of final drive.	<b>07</b>
<b>Q.5</b>	(a) Explain in brief articulated vehicle.	<b>03</b>
	(b) Explain construction feature of forklift.	<b>04</b>
	(c) Explain design consideration of electrical system of special purpose vehicle.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Function of (1) Ripper,(2)Scraper,(3)Power shovel	<b>03</b>
	(b) Write short note on safety device of crane.	<b>04</b>
	(c) Explain economics of special purpose vehicle utilization.	<b>07</b>

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