

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (NEW) EXAMINATION – SUMMER 2021****Subject Code:2180211****Date:05/08/2021****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.

	MARKS
Q.1 (a) Classify the Special Purpose Vehicles.	03
(b) Differentiate between wheel type & track type vehicle.	04
(c) Explain the working of Steering system of SPV with neat sketch.	07
Q.2 (a) What do you mean by Hydraulic Control Circuits?	03
(b) Explain working principles of Lubrication System of SPV.	04
(c) Explain purpose, construction and working of Excavator in detail.	07
OR	
(c) Explain Hydraulic Braking System used in SPV.	07
Q.3 (a) Write short note on PTO unit.	03
(b) Enlist different types of accessories of Wheeled Tractors use.	04
(c) Give the classification of Tractor and explain power transmission system of Tractor.	07
OR	
Q.3 (a) Enlist different types Crane are used.	03
(b) Write short note on safety device of Crane.	04
(c) Explain construction and working principle of Mobile Crane with neat sketch.	07
Q.4 (a) What are Articulated Vehicles?	03
(b) Explain comparison of Wheel loader and Power Shovel.	04
(c) Explain purpose, construction and working of Tipper in detail.	07
OR	
Q.4 (a) Give the advantage and limitation of Ripper.	03
(b) Explain construction feature of Forklift.	04
(c) Draw the sketch showing the construction of Wheel loaders and explain its purpose and working in detail.	07
Q.5 (a) Write short note on Hover Craft	03
(b) Write short note on Fire Extinguishing Vehicle.	04
(c) Write the importance of Ergonomics in Vehicle Designing	07
OR	
Q.5 (a) Write short note on comfort in SPV.	03
(b) Explain economics of SPV utilization.	04
(c) Explain human factor in SPV design with reference to vibration and thermal stress on human performance.	07
