

**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.

		MARKS
Q.1	(a) Explain wheel type special purpose vehicle.	03
	(b) Classify the tractors.	04
	(c) Explain constructional working feature of Bulldozers with neat sketch.	07
Q.2	(a) Discuss about basic characteristics of truck cranes.	03
	(b) Make a layout of tractor.	04
	(c) Explain working principles and design considerations of final drive.	07
OR		
	(c) Explain hydraulic control system of tractor.	07
Q.3	(a) Give different applications of special purpose vehicle.	03
	(b) Write a note on features of oil-tankers.	04
	(c) Explain Constructional working features of ambulance.	07
OR		
Q.3	(a) What do you mean by pneumatic control circuits?	03
	(b) Explain design features of mobile cranes.	04
	(c) Explain Economics of special purpose vehicle utilization.	07
Q.4	(a) What do you mean by articulated vehicles?	03
	(b) Brief about stability and control system in mobile cranes.	04
	(c) Explain Constructional working features of shovel.	07
OR		
Q.4	(a) Give advantages and limitation of forklift.	03
	(b) Explain the working of fire extinguishing vehicle.	04
	(c) Explain working principles and design considerations of steering system.	07
Q.5	(a) Enlist types of earth moving equipments.	03
	(b) What are the effects of noise on human?	04
	(c) Explain working principles and design considerations of lubrication.	07
OR		
Q.5	(a) Explain thermal stresses on human performance.	03
	(b) Discuss about power take off unit.	04
	(c) Explain Constructional working features of road roller.	07
