

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2180203/2180211****Date:15/05/2019****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.

MARKS

- Q.1** (a) Classify the special purpose vehicle **03**
(b) Explain Road Roller. **04**
(c) Explain the working of Steering system of special purpose vehicle with neat sketch. **07**
- Q.2** (a) Explain track type special purpose vehicle. **03**
(b) Explain working principles of lubrication system of special purpose vehicle. **04**
(c) Explain working principle and design consideration of final drive. **07**
- OR**
- (c) Explain design consideration of electrical system of special purpose vehicle. **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 Shovel. **04**
(c) Explain purpose, construction and working 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 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 special purpose vehicle. **03**
(b) Explain economics of special purpose vehicle utilization. **04**
(c) Explain human factor in special purpose vehicle design with reference to vibration and thermal stress on human performance. **07**
