

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2180203/2180211****Date: 26/11/2018****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.

- Q.1** (a) Define the term Special purpose vehicle. **03**  
(b) Different between wheel and track type vehicle. **04**  
(c) List the various special purpose vehicles. Give the applications of each **07**
- Q.2** (a) What is the function of Tipper? **03**  
(b) Explain the difference between Trailer and semi-trailer. **04**  
(c) Draw a neat sketch and explain working principles and design considerations for Excavator. **07**
- OR**
- (c) Explain different attachments of wheel loaders with neat sketch. **07**
- Q.3** (a) What is the function of power shovel? **03**  
(b) Write short note on multi axle vehicles. **04**  
(c) Describe dozer. Explain different types of dozer blades. **07**
- OR**
- Q.3** (a) Which different attachment is used in tractor? **03**  
(b) Classify the tractor. How tractor is selected? **04**  
(c) Show all the parts of Fork lift truck and explain. **07**
- Q.4** (a) What is PTO shaft? **03**  
(b) Write the difference between crawler & wheel tractor. **04**  
(c) Why PTO shaft is provided in tractor? Explain three standard types of PTO drives. **07**
- OR**
- Q.4** (a) What is an Ergonomics? **03**  
(b) Explain air brake system with neat sketch. **04**  
(c) List the types of crane and explain characteristic of truck crane. **07**
- Q.5** (a) What is fifth wheel mechanism? **03**  
(b) Explain with neat sketch of dumper. **04**  
(c) Explain the construction of Mobile crane. **07**
- OR**
- Q.5** (a) What is articulated vehicle? **03**  
(b) Write the difference between crawler & wheel tractor. **04**  
(c) Write in detail the Purpose, functional usage of Road roller. **07**

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