

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE SEM-VIII Examination May 2012****Subject code: 180203****Subject Name: Special Purpose Vehicles****Date: 12/05/2012****Time: 10.30 am – 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.**

- Q.1** (a) Classify the special purpose vehicle and give the application of each. **07**  
(b) Explain hydraulic system of tractor with neat sketch. **07**
- Q.2** (a) Draw the layout of solar vehicle and explain its working. **07**  
(b) Write a short note on wheel loader with its applications and attachments. **07**
- OR**
- (b) Explain the bucket wheel excavator with its main parts. Write the advantages of the bucket wheel excavator. **07**
- Q.3** (a) How the power shovel is selected? Write the factors which affect the output of a power shovel. **07**  
(b) Write the difference between crawler & wheel tractor. **07**
- OR**
- Q.3** (a) List and explain the various implements used with tractor. **07**  
(b) Explain with neat sketch series hybrid & parallel hybrid drive trains. **07**
- Q.4** (a) Describe the special features of tractor. **07**  
(b) Write short note on tracked vehicle & articulated vehicle **07**
- OR**
- Q.4** (a) Classify and explain multi axle vehicles. **07**  
(b) List the main components of an electric vehicle and give the advantages and disadvantages of an electric vehicle. **07**
- Q.5** (a) List the types of crane and explain characteristic of truck crane. **07**  
(b) Explain air brake system with neat sketch. **07**
- OR**
- Q.5** (a) Explain hydraulic and cable control system of bulldozer. **07**  
(b) Explain gear box used in tractor with neat sketch. **07**

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