

C.U.SHAH UNIVERSITY

Summer Examination-2018

Subject Name: Special Purpose Vehicles

Subject Code: 4TE08SPV1

Branch: B.Tech (Automobile)

Semester: 8

Date: 24/04/2018

Time: 02:30 To 05:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator & any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

Q-1	Attempt the following questions:	(14)
	a) Classify SPV on the basis of wheel types.	1
	b) Write the three main parts of torque converter	1
	c) Where is haul truck applicable?	1
	d) What is the function of Grid roller?	1
	e) What is the function of draw bar?	1
	f) In Carry deck crane _____ degree rotating boom placed.	1
	g) What is the main application of floating crane?	1
	h) What is the function of power train?	1
	i) List the main components of planetary gearing.	1
	j) Define articulated vehicle.	1
	k) Write the full forms of ABS & EBD.	1
	l) List the types of hybrid vehicle by drivetrain structure.	1
	m) What is the function of fifth-wheel mechanism?	1
	n) What is the application of power shovel?	1

Attempt any four questions from Q-2 to Q-8

Q-2	Attempt all questions	(14)
	a) Classify special purpose vehicle and give applications of each.	7
	b) Write the advantages and disadvantages of hybrid car. And explain hydraulic braking system.	7
Q-3	Attempt all questions	(14)
	a) Draw a neat sketch and explain working principles and design considerations for Excavator.	7
	b) Draw a complete lay out of tractor and explain in details.	7
Q-4	Attempt all questions	(14)
	a) With neat sketch explain the fifth wheel coupling mechanism.	7
	b) Write the design and construction considerations for a new type of Special purpose vehicle. Write step by step process you would like to follow.	7
Q-5	Attempt all questions	(14)
	a) Explain the lattice boom crawler crane with neat sketch and label all the parts.	7
	b) With neat sketch explain working operation of fork-lift.	7



