

Enrollment No: _____

Exam Seat No: _____

C.U.SHAH UNIVERSITY

Summer Examination-2017

Subject Name: Special Purpose Vehicles

Subject Code: 4TE08SPV1

Branch: B.Tech (Automobile)

Semester: 8

Date: 12/04/2017

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)	What is the application of Tow-truck?	1		
b)	List the military SPV.	1		
c)	Which is rotary actuators	1		
	a) Single acting cylinder	b) Vane motor		
	c) Telescopic cylinder	d) Double acting cylinder		
d)	Which is a type of lubrication system?	1		
	a) Splash system	b) Pressure feed system		
	c) Dry sump lubrication system	d) All the above		
e)	What is the function of forklift?	1		
f)	What is the application of shovel?	1		
g)	List the different implement of tractor.	1		
h)	What is the application of PTO shaft?	1		
i)	How much degree of rotation of mobile crane?	1		
	a) 180	b) 350	c) 45	d) 270
j)	When Crane is operated at 10m, 20m, 30m, 40m length of boom then at which length the of boom crane can carry maximum load with fully open outrigger?	1		
	a)10m	b) 20m	c) 30m	d) 40m.
k)	Draw the sketch of epicyclical gear train.	1		
l)	What is the function of universal joint?	1		
m)	Define articulated vehicle.	1		
n)	Draw the layout of energy flow in solar vehicle.	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)	Which types of steering system used in SPV? Explain in detail with neat sketch	7
Q-3	Attempt all questions	(14)
a)	With the help of diagram explain working of hydraulic system of tractor.	5
b)	List different types of crane. What are the characteristics of truck crane?	5
c)	With neat sketch explain about load distribution of tractor.	4



Q-4	Attempt all questions	(14)
a)	Explain in detail about necessity of Good special purpose vehicle.	7
b)	What is the bell housing? Where its use? Explain the function of bell housing in detail.	7
Q-5	Attempt all questions	(14)
a)	With neat sketch explain about power transmission system of tractor	5
b)	With neat sketch explain working of crawler crane.	5
c)	What are the applications and Advantages of mobile cranes?	4
Q-6	Attempt all questions	(14)
a)	With neat sketch explain construction & working of crawler track mounted excavator.	7
b)	With neat sketch explain about fifth wheel mechanism.	7
Q-7	Attempt all questions	(14)
a)	With neat sketch explain about hydraulic system of bulldozer.	7
b)	With neat sketch explain in detail about dead axle.	7
Q-8	Attempt all questions	(14)
a)	With neat sketch explain in detail about engine –converter match curve.	7
b)	With neat sketch explain about combine hybrid vehicle.	7

