	DR. BAD.			196 - V			
	SABASAI	EB AMBEDKAR TECHNOLOGIA	1.1.1.1.1.1.				
	Con Regular End Semester Examination Commune 2017						
	Course: B. Tech. B	ranch: Mechanical Engineering	themselves (1);				
	Subject Code & Name: BTMEC801A Fundamentals of Automotive System						
	Max Marks: 60	Date:04/07/2022	Duration 3.4	Duration 3.45 st.			
	Instructions to the Stu 1. All the questi 2. The level of c which the que 3. Use of non-p 4. Assume suita	idents: Ons are compulsory. Juestion/expected answer as per OBI estion is based is mentioned in () in J rogrammable scientific calculators is ble data wherever necessary and men	E or the Course Oytcome front of the question. 5 allowed. htion it clearly. (1	(((()) or .evel/CO)	Marks		
Q.1	Solve Any Two of the	following.		1			
A)	What are the limitation	is of the supercharging in an IC engine?		1 J. S	06		
B)	Briefly explain the fol	lowing: (i) time loss factor (ii) heat loss f	actor		06		
)	(iii) exhaust blowdow	n factor.					
C}	Explain the loop scave	enging process in two-stroke engine with	neat schematic		06		
<'	diagram.						
0.2	Solve Any Two the fo	ollowing.			06		
AY	Explain the stages of c	combustion in CI engine?			00		
B	Briefly discuss the air-	fuel ratio of a petrol engine from no load	to full load.		06		
y cr	Explain the exhaust ga	s recirculation (EGR) method for controll	ing the emissions				
	from the engine.						
Q.3	Solve Any Two of the	following.			06		
A	Explain the engine por	ver-torque vs speed characteristics for act	ual internal				
	combustion engine with	h suitable performance curve.			06		
В	Explain the working o	f clutch in automotive with suitable layou	it.		06		
C)	Describe the working	of multi speed gear box			00		
Q.4	Solve the following.				06		
4)	Explain the hydraulic	braking system.			00		
_B)	What is antilock braki	ng system? Explain with suitable diagran	n		06		
Q. 5	Solve Any Two of the	following.			0.0		
A	Explain the hydraulic	power steering system with suitable scher	matic diagram.		06		
B)	Describe the various ty	pes of front suspension systems.			06		
C)	What are the causes of	tyre heat and how can it be reduced?			06		
1		*** End ***	<u> </u>				

		and the second	TALE AND A DECEMBER OF A DE	AT STATE	. All the
	DE MBASAIID				
	b.	SAMBEDKAR TECHNOLOG			
	Course: B. Tech	ilar End Semester E.			
	Semestory Var	ich: Automoby	NERE		
	Subj	ect Code			
	Max Marka: Go Subia	Suger BTMECCOLLY IN ASSAULT			
	ment inclons to the s	Date: 07/07/2022			
	2. The questions are	Duistin III.			
	3 question of question/	compulsory, Pypos			,
	4. U_{se} of non-negative terms $\frac{U_{se}}{\Delta}$ of non-negative terms $\frac{U_{se}}{\Delta}$	entioned in () in free – Glassing violit.) on which the		, F
0	Assume suitable day	nable scientific calculators is allowed.			
Q. 1	Solve Any T.	wherever necessary and mention it clearly.	(1 evel/CO)	Marks	
A)	What is for it wo of the foilor	uin -	(E)eren er y		
B),	Can's: [uel? What	wing,		6	
E	Early (191,009) 606Lar	are different atternatives for fossil fact.	\mathcal{T} is a subject of the standard state of the state $\mathcal{T}_{\mathcal{T}}$. The standard state of the state $\mathcal{T}_{\mathcal{T}}$	C. Personal	
(future energy consumption	ion as a measure of process situ and world energy		1 mars	
Q.2	Solve Any Ture	ion as a measure of prospericy and worre energy			
A)	Explain solar one	owing.		C	
В)	Explain solar one	Iternative energy source.		6	
S)-	Explain with past	version systems and their applications		6	
Q. 3	Solve Any True 6	solar flat plate collector as solar air beater		6	
A)	Explain the following is the following the f	owing.	C:		
	1. Solar construct	rms		6	
	2. Solar spectrum		1	0	
	3. Clarity Index.				
	5. Zenith angle	e.			
	6. Day length hour	S			
B)	Explain principle of wo	rking of a solar coll	1		
C)	Explain various types o	f commercial ()		6	
Q.4	Solve Any Two of the fel	r commercial solar cells.		C	
A)	What is a lab	llowing.		D	
	what is wind data and e	energy estimation in wind energy? —			
(В)	What are various types	of rotors in wind mill? Draw a post labout a		6	÷.
0	 of propeller type of wir What is a set of the set o	nd machine.	ch	6	N
60)	Power plant	FEC? Draw neat labelled sketch of open cycle \cap	TEC		
Q.5	Solve Any Two of the fo			6	5.
A	Explain principle of M	HD power actions	1		
(B)	Write design and pring	ind power generation.		6	Sec.
C)		uple of operation of a fuel cell.		6	
	Explain with neat sket	ch working of Lithium ion Batteries.			
		*** End ***		Ø	
	John State and Stat		8 1		
		No.			
	. n	to the second		- Andre Ca	
		DUTTONT (COTOFINESOR & OTNER & OF 1 STENC			