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Code No: R1621354		ro: R1621354 (R16) (SET -	
		II B. Tech I Semester Supplementary Examinations, May - 2019 PROPERTIES AND STRENGTH OF MATERIALS (Agricultural Engineering)	
Time: 3 hours Max. Ma			70
		<ul> <li>Note: 1. Question Paper consists of two parts (Part-A and Part-B)</li> <li>2. Answer ALL the question in Part-A</li> <li>3. Answer any FOUR Questions from Part-B</li> </ul>	
		<u>PART –A</u>	
1.	a)	How many numbers of bricks are required for one cubic meter of brick masonry?	2M
	b)	Name any four plastic products used in agricultural engineering works.	2M
	c)	What are alloys of Aluminium? What are their uses?	2M
	d)	Explain thermal stresses in a composite bar of brass and mild steel.	3M
	e)	Give Rankine's formula for columns.	2M
	f)	What are the design parameters to be considered for the design of base width of a dam?	3M
		<u>PART -B</u>	
2.	a)	Enumerate various types of cement and their properties.	7M
	b)	Explain the uses of various types of tiles.	7M
3.	a)	What are the constituents of paint? Bring out the differences between paint and varnish.	7M
	b)	Discuss the characteristics of rubber and its uses in farm activities	7M
4.	a)	Describe the quantities of good timber and explain the uses of timber in agriculture farm.	9M
	b)	Explain various methods of heat treatment of steel	5M
5.		A beam of uniform section, 10metres long, is simply supported at the ends. It carries point loads of 100kN and 60kN at distances of 3 m and 6 m respectively from the left end. Calculate i).The deflection under each load; ii) The maximum deflection. Given: $E = 200 \times 10^6 \text{ N/m}^2$ , and $I=118 \times 10^{-4} \text{ m}^4$ . Use double integration method	14M
6.		Derive an expression for buckling of a column when both ends are hinged.	14M
7.	a)	What is the difference between riveted and welded joint?	6M
	b)	Derive the equation for slope and deflection.	8M
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