

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD
SEMESTER END THEORY EXAMINATION

B.Sc.(Hons.) Agriculture

Semester : III (New)	[ICAR - Sixth Deans' Committee Syllabus]	Acad. Year : 2025-26
Course No. : AE-231	Title : Farm Machinery and Power	
Credit Hrs. : 2(1+1)	Time : 10:00 to 12:00 hrs.	Total Marks : 40
Day, Date : Friday, 19.12.2025		

Note: Draw neat diagram wherever necessary

SECTION 'A' : Questions with Descriptive Long Answers (Any 4)		Marks
Q.1	Discuss in detail final drive of tractor.	6
Q.2	Discuss the term 'Cultivation' with its objectives. Give the types of cultivators.	6
Q.3	Define Tractor. Give different types of tractor.	6
Q.4	A Massey Ferguson® 1035 diesel tractor has a three-cylinder four-stroke engine (one power stroke for every two revolutions), cylinder bore = 88.9 mm, stroke = 127 mm, compression ratio = 16.5:1, belt horse power = 32 and engine speed = 2000 rpm. Calculate: a) piston displacement b) displacement volume c) piston speed d) stroke bore ratio.	6
Q.5	a) What are the objectives of tillage?	3
	b) Enlist and discuss different sources of farm power available in India.	3
Q.6	a) The following results were obtained, while calibrating a seed drill. Calculate the seed rate per hectare.	3
	(i) No. of furrows = 10	
	(ii) Spacing between furrows = 20 cm	
	(iii) Diameter of drive wheel = 1.5 meter	
	(iv) Speed = 500 rev/min	
	(v) Seed collected = 20 kg	
	b) Discuss the operation of harvesting of crops with factors affecting harvesting losses.	3
SECTION 'B' : Questions with Descriptive Short Answers (Any 4)		
Q.7	Explain in short the types of I.C. engine.	2
Q.8	What do you mean by Engine lubrication? What are the purposes of lubrication?	2
Q.9	Enlist different sowing methods.	2
Q.10	Explain in short about Primary tillage.	2
Q.11	Explain in detail about different types of dusters.	2
SECTION 'C' : Objective-type compulsory Questions		
Q.12	Define the following terms:	4
	1) Harrow 2) Strip tillage 3) Combine 4) Dibbling	
Q.13	Do as directed:	4
	1) In four stroke engine, the cycle is completed in _____ revolution(s) of crank shaft.	
	2) Name any two devices used for digging out root crops.	
	3) Placing groups of seeds at about equal interval in rows, is called _____.	
	4) In Diesel/ Compression/ Spark ignition engine, air fuel ratio is constant. (Choose the correct word)	

