SIDDHARTH INSTITUTE OF ENGINEERING AND TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : FM-I (19AG0702) **Course & Branch**: B.Tech – AGE

Year & Sem: II-B.Tech & II-Sem **Regulation:** R19

UNIT-I

INTRODUCTION TO FARM MECHANIZATION

1	a	Define farm mechanization?	[L1][CO1]	[02M]
	b	Explain in briefly about tractor and custom hiring?	[L1][CO1]	[10M]
2	Explain in briefly about heat treatment of steel		[L5][CO1]	[12M]
3	Explain about objectives of farm mechanization and classification of farm machines		[L1][CO1]	[12M]
4	Explain in briefly about selection of tractor		[L1][CO1]	[12M]
5	Discuss about cost calculation of farm tractor by using straight line method		[L6][CO1]	[12M]
6	Distinguish benefits and limitations of farm mechanization		[L4][CO1]	[12M]
7	Illustrate about materials of construction of agricultural implement		[L2][CO1]	[12M]
8	What are the different sources of farm power? Explain them		[L1][CO1]	[12M]
9	How do use discuss about scope of farm mechanization?		[L1][CO1]	[12M]
10	What are the merit and demerits of source of farm power?		[L1][CO1]	[12M]

UNIT-II

TILLAGE

1	a	Define tillage?	[L1][CO2]	[02M]
	b	Explain in briefly about different harrowing and harrow?	[L1][CO2]	[10M]
2	Explain in briefly about classification and types of tillage		[L5][CO2]	[12M]
3	Solve the problem consists of a three bottom 40 cm MB plough has a working depth of 15 cm and draft is 1600 kg. field efficiency is 70% and working speed is 4 km/h. Find i) Unit draft ii) Power required iii) Actual field capacity		[L6][CO2]	[12M]
4	Explain in briefly about accessories of mould board plough		[L1][CO2]	[12M]
5	Discuss about spring tooth harrow and spike tooth harrow?		[L6][CO2]	[12M]
6	Distinguish between mould board plough and disc plough with neat sketches		[L4][CO2]	[12M]
7	Illustrate about advantage and disadvantages of disc plough?		[L2][CO2]	[12M]
8	Where do you use disc harrow? Explain about different types of disc harrow		[L1][CO2]	[12M]
9	Distinguish between standard disc plough and vertical disc plough		[L4][CO2]	[12M]
10	What are the functions of mould board plough? Describe its different parts with the help of neat sketch		[L1][CO2]	[12M]

UNIT – III

EARTH MOVING EQUIPMENT

1	a	Explain in briefly aboutflutted feed type metering mechanism?	[L1][CO3]	[10M]
	b	Define draft and unit draft?	[L1][CO3]	[02M]
2	Explain in briefly about operation of scraper and mention their parts		[L5][CO3]	[12M]
3	Solve the problem: The following results were obtained while calibrating a seed drill. Calculate the seed rate per hectare a) Number of furrows =10 b) Spacing between furrows=20 cm c) Diameter of drive wheel = 1.5 m d) Speed = 500 rev/min e) Seed collected = 20 kg		[L6][CO3]	[12M]
4	A farmer purchased a tractor of 25 kW power at a total cost of Rs. 500000 and a three bottom plough of 30 cm bottom width at Rs. 30000/- only. The fuel consumption of the tractor was 6 ltr/h at the ploughing speed of 5 km/h. Calculate the area ploughed per hour and determine the cost of ploughing per ha. Make necessary assumptions if any.		[L5][CO3]	[12M]
5	Discuss about different towed scraper and motor scraper		[L6][CO3]	[12M]
6	Distinguish between wheel type and ladder type trenching machines		[L4][CO3]	[12M]
7	Illustrate about rimpull and drawbar power?		[L2][CO3]	[12M]
8	What is the earth moving equipment's commonly used for handling of earth? Explain about trenchers		[L1][CO3]	[12M]
9	How do you differ excaloader and bulldozer? Explain about shovels		[L1][CO3]	[12M]
10	Where do you use scraper? Explain in briefly about different types of scraper		[L1][CO3]	[12M]

UNIT – IV

SEEDING METHOD

1	a	Define sowing?	[L1][CO4]	[02M]
	b	Explain in briefly about different methods of sowing	[L1][CO4]	[10M]
2	Explain in briefly about flutted feed type seed metering mechanism with neat sketch		[L5][CO4]	[12M]
3	Explain in briefly about different types of seedling mat transplanter		[L1][CO4]	[12M]
4	Explain in briefly about different types of seed metering mechanism		[L1][CO4]	[12M]
5	Distinguish between seed drill and seed cum fertilizer drill		[L4][CO4]	[12M]
6	A five tyne cultivator having tine spacing 8 cm, working depth of 5 cm and speed is 3 km/h. turning loss is 10%. Soil resistance is 0.6 kg/cm^2. Width of each furrow is 5 cm. calculate a) Time to cover one ha, b) Maximum draft, c)Required power		[L4][CO4]	[12M]
7	Illustrate about different intercultural equipment's		[L2][CO4]	[12M]
8	What are the functions of furrow openers in seed drill? Explain in briefly about different types of furrow openers		[L1][CO4]	[12M]
9	Explain about seed cum fertilizer drill		[L1][CO4]	[12M]
10	Define calibration of seed drill? Explain in briefly about calibration of seed drill		[L1][CO4]	[12M]

UNIT – V

PLANT PROTECTON EQUPMENT

1	Explain about different types of duster	[L1][CO5]	[12M]
2	How do use discuss about calibration of sprayer? Explain in briefly about calibration of sprayer	[L5][CO5]	[12M]
3	Solve the problem: Line of pull of a MB plough is 15˚ with the horizontal & is in a vertical plane which is at an angle of 12˚ with the direction of travel. Calculate a) required pull if draft of plough is 1000 kg & b) side draft (given cos 15˚=0.96, cos 12˚=0.97 & sin12˚=0.20)	[L6][CO5]	[12M]
4	A farmer purchased a tractor of 35 kW power at a total cost of Rs. 500000 and a three bottom plough of 30 cm bottom width at Rs. 30000/- only. The fuel consumption of the tractor was 6 ltr/h at the ploughing speed of 5 km/h. Calculate the area ploughed per hour and determine the cost of ploughing per ha. Make necessary assumptions if any.	[L5][CO5]	[12M]
5	What are the functions of sprayers? Explain its application	[L1][CO5]	[12M]
6	Discuss about nozzle of sprayer	[L6][CO5]	[12M]
7	Illustrate about different types of sprayer	[L2][CO5]	[12M]
8	Differentiate between knapsack sprayer and power sprayer	[L1][CO5]	[12M]
9	Explain in briefly about different types of fertilizer application equipment	[L1][CO5]	[12M]
10	Explain in briefly about fertilizer metering mechanism	[L1][CO5]	[12M]

Prepared by: **Dr SHASHIKUMAR**