



**SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR**  
Siddharth Nagar, Narayanavanam Road – 517583

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code :** FME-I (16AG707)

**Course & Branch:** B.Tech – AG

**Year & Sem:** III-B.Tech & I-Sem

**Regulation:** R16

**UNIT-I**

**INTRODUCTION TO FARM MECHANIZATION**

- |   |     |
|---|-----|
| 1. a) What is farm mechanization?   | 2M  |
| b) Describe about status of farm mechanization in India                         | 10M |
| 2. Explain in briefly about heat treatment of steel                             | 12M |
| 3. a) What are the different sources of farm power? Explain them                | 2M  |
| b) Explain in briefly about different sources of farm power                     | 10M |
| 4. a) Explain about objectives of farm mechanization                            | 6M  |
| b) How do you describe about classification of farm machines                    | 6M  |
| 5. Explain in briefly about selection of tractor                                | 12M |
| 6. Explain about cost calculation of farm tractor by using straight line method | 12M |
| 7. Explain about benefits and limitations of farm mechanization                 | 12M |
| 8. Explain about materials of construction of agricultural implement            | 12M |
| 9. How do use discuss about scope of farm mechanization?                        | 12M |
| 10. What are the merit and demerits of source of farm power?                    | 12M |

**UNIT-II**  
**TILLAGE**

1. Explain about classification and types of tillage 12M
2. a) What is tillage? 2M  
b) Explain about objectives of tillage 10M
3. How do you distinguish between mould board plough and disc plough with neat sketches? 12M
4. a) What are the functions of mould board plough? 2M  
b) Describe mould board plough different parts with the help of neat sketch 12M
5. Explain about accessories of mould board plough 12M
6. Distinguish between standard disc plough and vertical disc plough 12M
7. a) Where do you use disc harrow? 2M  
b) Explain about different types of disc harrow 10M
8. What are the advantages and disadvantages of disc plough? 12M
9. A three bottom 40 cm MB plough has a working depth of 15 cm and draft is 1200 kg. field efficiency is 80% and working speed is 4 km/h.  
Find i) Unit draft ii) Power required iii) Actual field capacity 12M
10. How do you differentiate between spring tooth harrow and spike tooth harrow? 12M

**UNIT – III****EARTH MOVING EQUIPMENT**

1. a) Where do you use scraper? 2M  
b) Explain in briefly about different types of scraper 10M
2. a) How do you differ excaloader and bulldozer? 2M  
b) Explain about shovels 10M
3. a) What is the earth moving equipment's commonly used for handling of earth? 12M  
b) Explain about trencher 2M
4. a) What are the different types of cultivator? 2M  
b) Explain about spring tine cultivator with neat sketch. 10M
5. 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 12M
6. 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. 12M
7. Explain in briefly about operation of scraper and their parts 12M
8. Distinguish between wheel type and ladder type trenching machines 12M
9. Explain in briefly about different towed scraper and motor scraper 12M
10. Distinguish between rimpull and drawbar power? 12M

**UNIT – IV**  
**SEEDING METHOD**

1. a) What is seed metering mechanism? 2M  
b) Mention different types of seed metering mechanism and explain any one among them with neat sketch. 10M
2. a) What are the functions of furrow openers in seed drill? 2M  
b) Explain in briefly about different types of furrow openers 10M
3. Explain in briefly about fluted feed type seed metering mechanism with neat sketch 12M
4. Explain in briefly about different types of seed metering mechanism 12M
5. a) Define calibration of seed drill? 2M  
b) Explain in briefly about calibration of seed drill 10M
6. a) What are the functions of sprayers? 6M  
b) Explain in briefly about sprayer applications 6M
7. Explain in briefly about different types of sprayer 12M
8. Explain in briefly about different types of nozzle of sprayer 12M
9. a) Define calibration of sprayer? 2M  
b) Explain in briefly about calibration of sprayer 10M
10. Explain in briefly about different parts of sprayers and dusters 12M

UNIT – VTRANSPLANTING METHODS

1. a) What is transplanting? 2M  
 b) Explain in briefly about different types of transplanter 10M
2. Explain in briefly about different types of seedling mat transplanter 12M
3. Explain in briefly about different types of fertilizer application equipment 12M
4. Explain in briefly about fertilizer metering mechanisms 12M
5. Line of pull of a MB plough is  $15^\circ$  with the horizontal & is in a vertical plane which is at an angle of  $12^\circ$  with the direction of travel.  
 Calculate a) required pull if draft of plough is 1000 kg &  
 b) Side draft (given  $\cos 15^\circ=0.96$ ,  $\cos 12^\circ=0.97$  &  $\sin 12^\circ=0.20$ ) 12M
6. A seven tyne cultivator having tine spacing 8 cm, working depth of 8 cm and speed is 3 km/h. turning loss is 10%. Soil resistance is  $0.6 \text{ kg/cm}^2$ . Width of each furrow is 5 cm. calculate  
 a) Time to cover one ha  
 b) Maximum draft  
 c) Required power 12M
7. 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  
 a) Area ploughed per hour and  
 b) Determine the cost of ploughing per ha. Make necessary assumptions if any. 12M
8. Distinguish between spike tooth harrow and spring tooth harrow 12M
9. Explain in briefly about different intercultural equipment's 12M
10. Explain in briefly about different types of disc harrow 12M

Prepared by: **SHASHIKUMAR**