

## MODEL QUESTIONS

1. The cheapest source of energy is -----
2. Power available from a farm labour is -----hp
3. Solar energy is a ----- energy
4. State the merits and demerits of different sources of energy used in farm.
5. List the advantages of diesel engine.
6. Mention the basic components of an IC Engine
7. List the types of engine classification
8. Mention the four strokes of IC engine with a neat sketch and explain their role
9. Differentiate petrol and diesel engine
10. Mention merits and demerits of different farm power sources.
11. Differentiate IHP and BHP
12. Write about the working of four stroke cycle engine
13. Write about the working of two stroke cycle engine
14. Compare four stroke cycle engine with two stroke cycle engine
15. Compare spark ignition engine with compression ignition engine.
16. A three bottom 40 cm M.B plough is working at a speed of 4 km/h . Calculate the effective field capacity if the field efficiency is 80 percent.
17. A four bottom 30 cm M.B plough is working at a speed of 4.5 km/h. Calculate the actual field capacity if the field efficiency is 70 percent.
18. List the animal drawn primary tillage implements .
19. Define Theoretical field capacity.
20. Define Effective field capacity.
21. Define field efficiency
22. List the objectives of Tillage
23. Differentiate casting and gathering.
24. With neat diagram mention the furrow terminologies
25. What do you mean by soil pulverization?
26. Define conservation tillage
27. Define mulch tillage
28. Preparation of soil in such a way that crop residues and other mulching materials are left on the surface is called
  - a. minimum tillage
  - b. strip tillage
  - c. rotary tillage
  - d. mulch tillage
29. The open trench left in between two adjacent strips of land after finishing the ploughing is called
  - a. dead furrow
  - b. back furrow
  - c. head land
  - d. crown
30. Theoretical field capacity of a double action disc harrow is 1.0 ha/h. Field efficiency is 80 % . What is the actual field capacity?
  - a. 1.0 ha/h
  - b. 1.5 ha/h
  - c. 0.5 ha/h
  - d. 0.8 ha/h

31. Soil tillage consists of breaking compact surface of soil to certain depth and loosening the soil True / False
32. Whenever a plough works round a strip of un ploughed land it is called casting True / False
33. When a plough works round a strip of ploughed land it is called as Casting True / False
34. List the types of mould boards and mention their advantages.
35. Mention the advantages of mould board plough over country plough.
36. Define horizontal suction.
37. Define draft.
38. Define side draft
39. List types of share and their applicability
40. Differentiate turn wrest plough and reversible plough.
41. Mention the components of mould board plough with a neat sketch and
42. explain their importance
43. What do you mean by unit draft.
44. Explain different types of disc ploughs
45. List the advantages of disc plough over mould board plough
46. Mention the conditions where in you will use disc plough
47. Define disc angle.
48. Define tilt angle.
49. Define concavity
50. List the types of disc plough
51. Differentiate disc and tilt angles.
52. Mention the components of disc plough with a neat sketch and explain their Importance.
53. Explain about construction , use and advantage of rotary tiller
54. Explain about construction , use and advantage of chisel plough
55. Explain about construction , use and advantage of subsoiler
56. List the advantages of chisel plough
57. List the advantages of chisel plough
58. List the advantages of chisel plough
59. Mention the conditions where in you will use sob soil plough
60. List the types of rotary blades
61. Mention the components of tractor drawn rotary tiller with a neat sketch and explain their importance
62. Land side helps to resist side pressure exerted by furrow slice on the mould board plough True / False
63. 12 In mould board plough land side helps to resist side pressure exerted by furrow slice True / False
64. Which one of the following is an accessory to mould board plough?

- a. Share b. mould board c. frog d. jointer
65. Horizontal suction allowed in mould board plough is  
a. 5 mm b. 10-12 mm c. 15 mm d. 20 mm
66. Horizontal component of pull is called  
a. Pull b. draft c. unit draft d. None
67. Total draft of a 4 bottom mould board plough is 1600 kg. What is the draft of a single bottom  
a. 1600 kg b. 1200 kg c. 800 kg d. 400 kg
68. In disc ploughs tilt angle varies between  
a. 15-25° b. 25-35° c. 35-45° d. 45-50°
69. Width of operation of a 2 x 30 cm disc plough is  
a. 30 cm b. 60 cm c. 90cm d. 120 cm
70. Disc angle in a standard disc plough varies from  
a. 25-35 ° b. 40-45 ° c. 45-55 ° d. 55-65 °
71. In stony and rocky fields mould board plough works better than disc plough true/false
72. A disc plough can be forced to penetrate into the soil which is too hard and dry for working with a mouldboard plough. true/false
73. Disc plough leaves the soil in rough and more cloddy condition than that of mouldboard plough. true/false
74. Differentiate rotary tiller and chisel plough.
75. A levelling board is attached to the rear side of the unit for levelling the tilled soil.  
True / False
76. Deep tillage shatters compacted sub soil layers and aids in better infiltration and storage of rainwater in the crop root zone. True / False
77. Chisel ploughing reduces the bulk density of soil True / False
78. Rotary tiller combines both primary and secondary tillage Operations True / False
79. Rotavator combines primary and secondary tillage operations  
a. True / False
80. Compacted areas prevent the natural drainage of the soil and also inhibit the passage of air and nutrients through the soil structure .True / False
81. A country plough cuts a trapezoidal furrow having 8 cm top width and 3 cm bottom width. The depth of furrow is 8 cm. assume average soil resistance to be 0.6 kg/cm<sup>2</sup>/. Calculate the pull exerted by the bullocks if the chain forms an angle of 30° with horizontal
82. Two bullocks weighing 400 kg each are pulling an implement with a speed of 3 km/h. The depth of furrow is 8 cm.. Assume soil resistance to be 0.6 kg/cm<sup>2</sup>.
83. Calculate the pull exerted by bullocks if the chain forms an angle of 30° with the horizontal.

84. A three bottom 40 cm mouldboard plough has a working depth of 15 cm, draft is 1200 kg, fuel efficiency is 80 %, and working speed is 4 km/h. calculate
  - a) Unit draft
  - b) Power required
  - c) actual field capacity
85. State the requirements of perfect sowing
86. Compare broadcasting with drill sowing
87. Compare check row planting with transplanting
88. What are the functions of a seed drill?
89. State the advantages of using seed drills.
90. List the types of seed metering mechanisms
91. Mention the components of a seed drill with a neat sketch and explain their importance.
92. A three bottom 40 cm M.B plough is working at a speed of 4 km/h . Calculate the effective field capacity if the field efficiency is 80 percent.
93. A four bottom 30 cm M.B plough is working at a speed of 4.5 km/h. Calculate the actual field capacity if the field efficiency is 70 percent.
94. List the animal drawn primary tillage implements .
95. Define Theoretical field capacity.
96. Define Effective field capacity.
97. Define field efficiency
98. List the objectives of Tillage
99. Differentiate casting and gathering.
100. With neat diagram mention the furrow terminologies
101. What do you mean by soil pulverization?
102. Define conservation tillage
103. Define mulch tillage
104. List the types of mould boards and mention their advantages.
105. Mention the advantages of mould board plough over country plough.
106. Define horizontal suction.
107. Define draft.
108. Define side draft
109. List types of share and their applicability
110. Differentiate turn wrest plough and reversible plough.
111. Mention the components of mould board plough with a neat sketch and explain their importance
112. What do you mean by unit draft.
113. Explain different types of disc ploughs
114. List the advantages of disc plough over mould board plough
115. Mention the conditions where in you will use disc plough
116. Define disc angle.

118. Define tilt angle.
119. Define concavity
120. List the types of disc plough
121. Differentiate disc and tilt angles.
122. Mention the components of disc plough with a neat sketch and explain their importance.
123. Explain about construction, use and advantage of rotary tiller
124. Explain about construction, use and advantage of chisel plough
125. Explain about construction, use and advantage of subsoiler
126. List the advantages of chisel plough
127. Mention the conditions where in you will use subsoil plough
128. List the types of rotary blades.
129. A country plough cuts a trapezoidal furrow having 8 cm top width and 3 cm bottom width. The depth of furrow is 8 cm. Assume average soil resistance to be 0.6 kg/cm<sup>2</sup>. Calculate the pull exerted by the bullocks if the chain forms an angle of 30° with horizontal
130. Two bullocks weighing 400 kg each are pulling an implement with a speed of 3 km/h. The depth of furrow is 8 cm. Assume soil resistance to be 0.6 kg/cm<sup>2</sup>.
131. Calculate the pull exerted by bullocks if the chain forms an angle of 30° with the horizontal
132. State the requirements of perfect sowing
133. Compare broadcasting with drill sowing
134. Compare check row planting with transplanting
135. What are the functions of a seed drill?
136. State the advantages of using seed drills.
137. List the types of seed metering mechanisms
138. Mention the components of a seed drill with a neat sketch and explain their importance
139. importance
140. Differentiate seed drill and seed planter.
141. Mention the different types of furrow openers and their uses.
142. What is calibration of seed drill
143. The following observations are recorded while calibrating the seed drill.
  - Number of furrows = 10
  - Spacing between the furrows = 20 cm
  - Diameter of the ground wheel = 1.5 m
  - Speed of rotation of ground wheel = 500
  - Weight of seed collected = 20 kg.

144. Calculate the seed rate.
145. Differentiate seed drill and seed planter.
146. Mention the different types of furrow openers and their uses.
147. What is calibration of seed drill of the following observations are recorded while calibrating the seed drill.
- Number of furrows = 10
  - Spacing between the furrows = 20 cm
  - Diameter of the ground wheel = 1.5 m
  - Speed of rotation of ground wheel = 500
  - Weight of seed collected = 20 kg.
- Calculate the seed rate.
148. Seed metering mechanism used in cultivator seed drill is
- a. Fluted rollers
  - b. Cup feed mechanism
  - c. Brush feed mechanism
  - d. Auger feed mechanism
149. In most of the seed drills drive for seed metering mechanism is taken from
- a. PTO shaft
  - b. Engine
  - c. Hydraulic system
  - d. Ground wheel
150. A five row 20 cm manual transplanter is pulled at a speed of 1.0 km/h. How much area will be planted in one day of 8 hours if field efficiency is 80 %
- a. 0.50 ha
  - b. 0.60 ha
  - c. 0.64 ha
  - d. 0.70 ha
151. Knock out mechanism is a device which knocks out the seeds from the cells Or picker heads of the mechanism. True/False
152. Dropping of seeds in furrow lines in a continuous flow and covering them with soil is called as
- a. Hill dropping
  - b. check row planting
  - c. drilling
  - d. Broadcasting
153. The mechanism used to meter fertilizer in seed cum fertilizer drill is
- a. Fluted rollers
  - b. Cup feed mechanism
  - c. edge drop rotor
  - d. Auger feed mechanism
154. In most of the seed drills drive for seed metering mechanism is taken from
- a. PTO shaft
  - b. Engine
  - c. Hydraulic system
  - d. Ground wheel
155. In seed metering mechanisms used in planters the device which knocks out the seeds from the cells is called
- a. Fluted rollers
  - b. Cut-off mechanism
  - c. Knock-out mechanism
  - d. Drive wheel
156. Knock out mechanism in the seed metering system of a planter brushes out excess seeds from the rotor true/false
157. Calculate the cost of seeding one hectare of land with bullock drawn seed drill of size 5x22 cm. the speed of bullocks is 3 km/h. Hire charges of bullocks is Rs. 150/day. Hire charges of seed drill is Rs. 100/day. Of 8 hours.

158. A fluted feed seed drill has 8 furrow openers of single disc type. The furrow openers are spaced 25 cm apart and the main drive wheel has a diameter of 120 cm. How many turns of main drive wheel would occur when the seed drill has covered 1.0 ha of land.
159. Define inter cultivation in agriculture. Mention some tools and implement used in inter cultivation
160. Explain about blade harrow
161. Explain about junior hoe
162. Explain about engine operated weeder
163. Mention the conditions where in you will use junior hoe
164. Name two implements used for conserving soil moisture in dry lands
165. List the types of weeders
166. Mention a neat sketch and explain the components of cono weeder their
167. Differentiate star and peg type weeders.
168. state the advantages of long handled weeder
169. Junior hoe is primarily used for
- breaking clods
  - seed bed preparation
  - weeding
  - none
170. The main advantage of using long handle weeders is
- Less drudgery to operator
  - Less area of coverage
  - Cheaper cost of weeder
  - Traditional tool
171. State the functions of sprayer
172. Furnish the classifications of sprayers
173. List the advantages of sprayers
174. Mention the components and operation of hand sprayer
175. Mention the components and operation of power sprayer
176. Explain about different types of nozzles
177. Mention the components of rocker sprayer with a neat sketch and explain their Importance When several nozzles are fitted in a pipe it is called as Spray gun
- True / False
178. In battery operated sprayers the component which breaks the chemical Solution in to fine particles is called
- spray gun
  - nozzle
  - spinning disc
  - none
179. The chemical solution requirement of a sprayer is 80 lit/ha. The sprayer can be classified under
- high volume sprayer
  - low volume sprayer
  - ultra low volume sprayer
  - none
180. Sprayers can be used to apply
- herbicide
  - fungicide
  - insecticide
  - all the three chemicals
181. Which of the following components of a sprayer is very important?

- a. Spray gun b. Cut-off lever c. Nozzle d. Strainer
182. Cut off valve is fitted between pump and nozzle of a sprayer and is used to control the flow of chemical solution to the nozzle True / False
  183. Explain the components and working of motorized knap sack Sprayers
  184. State the advantages of knapsack motorized mist blower compared to hand sprayer .Explain the parts and working of battery operated sprayer
  185. How will you convert a mist blower into a duster?
  186. Differentiate compression sprayer and battery operated sprayer.
  187. Calculate the water power which is required to discharge liquid @ 30 lit/min at 30 kg/cm<sup>2</sup> pressure
  188. In a pump, suction volume is 25 lit/min and pump efficiency is 85%. Calculate the shaft power at a pressure of 35 kg/cm<sup>2</sup>
  189. List the types of mowers .
  190. Mention the basic components a mower
  191. Explain with a neat sketch the working of a cutter bar .
  192. List the types of harvesting methods .
  193. List the advantages of harvesters .
  194. Mention the components of paddy harvester with a neat sketch and explain their importance .
  195. Define registration and alignment
  196. Differentiate plain and serrated sickle.
  197. The machine which cuts the crops and ties them into a neat and uniform sheaves is known as a. reaper binder b. mower c. harvester d. none
  198. A mower knife is said to be in proper *registration* when the knife section stops in the centre of its guard on every stroke True/False
  199. The material as left by the harvesting machine. Is called swath True/False
  200. The machine used to cut herbage crops is called a. reaper b. windrower c. mower d. harvester
  201. Swinging knives are used in a. cylindrical mower b. horizontal rotary mower c. flail mower d. reciprocating mower.
  202. Mention the components of combine harvester with a neat sketch and explain their importance
  203. Calculate total time required to harvest 2.5 ha of grass by means of a 2m mower being operated at 4 Km/h. Take field efficiency as 80%
  204. How many hectares of land can be cut by a combine with 4 m cutter bar, when it is operating at 4km/h