

AAU Agriculture Questions and Answers

1. The size of a seed drill is expressed by–
(A) amount of seed sown per unit time
(B) length x width of the machine
(C) the number of furrow openers x distance between two furrow openers ✓
(D) Area covered per unit time
2. The size of the planter is given by–
(A) Area covered per unit time
(B) Number of furrow openers x spacing between them ✓
(C) Length x Width of the machine
(D) Amount of seed sown per unit time
3. In precession planter the height of drop of seed from a hopper to ground should be about –
(A) 30 cm (B) 25 cm
(C) As close to the ground as possible ✓ (D) None of the above
4. The type of furrow opener recommended for use in hard and trashy ground and also in wet, dry soil in–
(A) single disc type ✓ (B) curved runner type
(C) hoe type (D) stub runner type
5. Most suitable furrow opener for seeding In a trashy and hard seedbed is–
(A) hoe type (B) shovel type
(C) disc type ✓ (D) runner type
6. Accurate and inclined placement of seeds to provide rows in two perpendicular directions is known as–
(A) Drilling (B) Planting
(C) Precision Seeding (D) Check-row Planting ✓
7. Power operated Paddy transplanter is being manufactured in India by–
(A) M/s Escorts Ltd.
(B) M/s Mitsubishi Ltd. ✓
(C) M/ s Eicher t..ractors Ltd.
(D) None of the above
8. In an offset harrow, the number of gangs is–
(A) 1 (B) 2 ✓
(C) 3 (D) 4
9. The recommended peripheral speed of a spike tooth cylinder for a wheat crop is ___ m/s–
(A) < 20 (B) 20 - 25
(C) 25 - 30 ✓ (D) 30 - 35
10. Hand operated sprayers are operated at ____ kg/cm²–

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- (A) 1 - 7 ✓ (B) 7 - 10
(C) 10-20 (D) 20-25

11. for spray application, the quantity to be applied in a field will depend upon–

- (A) Forward speed (B) No. of nozzles
(C) Pressure (D) All of the above ✓

12. Specific fuel consumption of tractor diesel engine is from ___ to ___ kg/ bhp-hr–

- (A) 0.10-0.15 (B) 0.18-0.25 ✓
(C) 0.26- 0.3 (D) 0.33-0.4

13. A tractor seat suspension should have its natural frequency in the range of ___ CPC.

- (A) 0.5 - 2 (B) 2 - 4 ✓
(C) 4 - 6 (D) None of the above

14. With increase in a stroke-bore ratio of an engine, the frictional horsepower of the engine–

- (A) increases (B) decreases
(C) remain same (D) None of the above ✓

15. The requirement of air for full combustion of 1 kg fuel in 5.1. 'engine is about _ kg–

- (A) 12.5 (B) 14.2
(C) 15.1 ✓ (D) 17.6

16. In the hydrostatic transmission drive having a variable displacement pump and a fixed displacement motor, the output torque–

- (A) increases with motor speed
(B) decreases with motor speed
(C) is almost constant with motor speed
(D) first increases and then decreases with motor speed ✓

17. The maximum torque can be increased by–

- (A) increasing the stroke-bore ratio
(B) increasing the volumetric efficiency ✓
(C) decreasing the stroke-bore ratio
(D) decreasing the volumetric efficiency

18. While designing the tractor seat suspension, the ratio of the tractor frequency to seat frequency is kept–

- (A) 0.5 ✓ (B) 1
(C) 1.4 (D) None of the above

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19. In a combine harvester, the ratio of reel peripheral speed to forwarding speed (reel speed index) should normally be in the range of—
(A) 1.25 to 1.50 ✓ (B) 1.50 to 1.75
(C) 1.75 to 2.00 (D) None of the above
20. An indigenous plough is—
(A) a multipurpose implement
(B) a primary tillage implement ✓
(C) a secondary tillage implement
(D) a wetland puddler
21. The differential lock in a tractor is used to give—
(A) high speed to outer wheel on a turn ✓
(B) lower speed to inner wheel on a turn
(C) different speed to drive
(D) when two wheels have different traction
22. Correlation coefficient—
(A) is less than -1 (B) is more than +1 ✓
(C) lies between -1 and +1 (D) lies between a and 1
23. Maximum number of a tractor being manufactured in India are in the hp range of—
(A) 15 - 24 (B) 25 - 36 ✓
(C) 37 - 50 (D) 51 - 60
24. Tilt angle of a disc plough is generally
(A) 0° (B) 15° ✓
(C) 20° (D) 45°
25. If the exact speed ratio does not require, which combination of teeth on a spur gear be preferred?
(A) 16: 32 ✓ (B) 14: 32
(C) 15: 31 (D) 14 : 30
26. Length of stroke in the engine is 1000 mm, running at 1000 rpm, the piston of the engine will be ___ m / min—
(A) 200 ✓ (B) 300
(C) 400 (D) 500
27. Most commonly transmission system used in India is—
(A) Synchronous (B) Planetary gear
(C) Selective gear ✓ (D) Hydrostatic
28. The four-cylinder engine at 180 rpm, the firing interval will be as—

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- (A) $\frac{1}{60}$ S ✓ (B) $\frac{1}{45}$ S
(C) $\frac{1}{90}$ S (D) $\frac{1}{10}$ S

29. The speed of a belt is 12 Mis and it transmitting 80 hp, the difference of tension on the sides of the belt will be–

- (A) 400 kg (B) 425 kg
(C) 475 kg (D) 500 kg ✓

30. The Lowest unit draft is obtained in a disc plow, when the disc is operated at depth of its diameter.

- (A) $\frac{1}{3}$ (B) $\frac{1}{2}$
(C) $\frac{1}{4}$ (D) $\frac{3}{4}$ ✓

31. The two types of cylinders used on power wheat threshers are–

- (A) Spike tooth and wire loop type
(B) Serrated disc and rasp bar
(C) Spike tooth and hammer mill ✓
(D) Hammermill and flails

32. An implement attached to swinging drawbar of the tractor will offer–

- (A) Increase in turning radius (B) Decrease in turning radius ✓
(C) Increase inside draft (D) None of the above

33. The unit draft of an indigenous plough making a 20 em wide and 10 em deep V-shaped furrow in 70 kg per sq. cm–The draft is–

- (A) 50 kg (B) 60 kg
(C) 70 kg ✓ (D) 80 kg

34. Total grain losses in a combined increase with–

- (A) Increase in forwarding speed
(B) Decrease in stubble height
(C) Increase in concave clearance
(D) All of the above ✓

35. Spiral gear is used to transmit power between two shafts placed at–

- (A) An angle to each other
(B) In different planes
(C) Both (A) and (B) ✓
(D) None of the above

36. Width of cut of disc plough is increased by–

- (A) Increasing disc angle ✓
(B) Increasing tilt angle
(C) Addition of more weight

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(D) Decreasing disc angle

37. The horizontal component of pull perpendicular to the line of motion is called—

- (A) Draft (B) Side draft ✓
- (C) Transverse component (D) Pull

38. For operating rotavator in trashy soils, which lines are better?

- (A) L - shaped ✓ (B) Hook shaped
- (C) Backward curved (D) Straight blade

39. Soil strength is determined by—

- (A) Penetrometer ✓ (B) Micrometer
- (C) Hydrometer (D) Dynamometer

40. Tandem wheels are preferred over dual wheels because—

- (A) They tend to reduce load on an area by 50% ✓
- (B) They tend to reduce soil contact pressure
- (C) Reduces subsoil compactness pressure
- (D) None of the above

41. The lower value of the ratio of drawbar height to length of tractor is better—

- (A) variation in weight transfer increased
- (B) variation in weight transfer decreased ✓
- (C) risk increases while ascending a gradient
- (D) variation in lateral stability is reduced

42. Inflation pressure in rear wheel tractor is—

- (A) 0.8 - 1.2 kg/cm² ✓ (B) 1.2 - 2.0 kg/cm²
- (C) 2.0 - 2.5 kg/cm² (D) > 2.5 kg/cm²

43. Turbochargers are driven by—

- (A) Direct connection with engine power
- (B) Exhaust gases from engine ✓
- (C) Electric current from battery
- (D) None of the above

44. Number of piston rings on piston varies between—

- (A) 1 - 3 (B) 3 - 7 ✓
- (C) 7 - 12 (D) 12 - 15

45. Farm yard manure contains about percentage of nitrogen.

- (A) 0.50 ✓ (B) 0.75
- (C) 1.00 (D) 1.25

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46. Improved uniformity is obtained if seed tube is inclined rearward at with vertical–

- (A) 5 - 15 °
- (B) 15 - 30° ✓
- (C) 30 - 40°
- (D) 40 - 50°

47. Compression pressure in petrol engine cylinder is–

- (A) 6 - 10 kg/cm² ✓
- (B) 10 - 20 kg/cm²
- (C) 20 - 35 kg/cm²
- (D) 35 - 45 kg/cm²

48. Injection pressure of the fuel nozzle in diesel engine is–

- (A) 35 - 45 kg/cm²
- (B) 50 - 100 kg/cm²
- (C) 100 - 200 kg/cm² ✓
- (D) 200 kg/cm²

49. Nozzle spacing on the boom in power operated sprayer depends upon–

- (A) Spray angle
- (B) Height of the boom from the target
- (C) Diameter of spray pattern
- (D) All of the above ✓

50. Size of tyre is generally represented as–

- (A) Sectional width x rim dia ✓
- (B) Sectional dia. x rim width
- (C) Tyre width x tyre dia,
- (D) None of the above