

MCQ on Farm Machinery & Equipment- II

1. Unthreshed seed discharge from the rear of the machine either in straw or in the material from the cleaning shoe is called :-

- a) Cylinder loss b) Walker losses (rack loss)
- C) Shoe loss d) Gathering losses

ANS:-(a)

2. Free (threshed) seed carried over the Walker or rack in straw and discharge from the rear of machine is called as :-

- a) Cylinder loss b) Walker losses (rack loss)
- C) Shoe loss d) Gathering losses

Ans:-(b)

3. Free (threshed) seed carried over straw discharge from the rear of shoe is called:-

- a) Cylinder loss b) Walker losses (rack loss)
- C) Shoe loss d) Gathering losses

Ans:-(C)

4. Speed of the cutter bar in case of combine (grain) is :-

- a) 400 – 550 rpm b) 500 – 800 rpm
- C) 800 - 1000 rpm d) 1000 – 1200 rpm

Ans:-(a)

5. The ratio of real peripheral speed to forward speed of combine is called :-

- a) Velocity index b) Angular velocity index
- C) Reel speed index d) kinematic index

Ans:-(C)

7. Pick up reels are very effective in :-

- a) Cutting of upright crops
- b) Lifting of lodged (down) crops ahead of cutter bar
- C) Both (a) and (b) are true
- d) None of the above

Ans:-(c)

Drillability of fertilizer is _____ proportional to the kinetic energy of repose

- a) Inversely
- b) Directly
- c) Unaffected
- d) None of these

Answer (a)

For a given application rate the number of droplet is inversely proportional to.....of the diameter of droplets.

- A) Square b) cube
- C) one fifth d) none of the above

Answer: b

Capacity of field choppers (chaff cutter) is affected by

- (a) capacity of the feed mechanism (cross sectional area)
- (b) Rate of advance of material through throat considered as to be the same linear speed of feed mechanism
- (c) density of forage material
- (d) all of the above

Answer:(d)

Pods, heads or ears and free seeds, lost during the cutting and conveying operations are called as

- (a) cylinder loss (b) walker loss (rack loss)
- (c) shoe losses (d) gathering loss

Answer: gathering losses

Unthreshed seed discharged from the rear of the machine either in straw or in the material from the cleaning shoe is called

- (a) cylinder loss (b) walker loss (rack loss)
- (c) shoe loss (d) gathering loss

Answer: cylinder loss

Free (threshed) seed carried over the walker or rack in straw and discharge from the rear of machine is called as

- (a) Cylinder loss (b) walker loss(rack loss)
- (c) Shoe loss (d) gathering loss

Answer: walker loss

Free (threshed) seed carried over the straw discharged from the rear shoe is called as

- (a) Cylinder loss
- (b) walker loss (rack Loss)
- (b) Shoe loss
- (d) gathering loss

Answer: shoe loss

Speed of the cutter bar in case of combine (grain) is

- (a) 400-550 rpm
- (b) 500-800rpm
- (c) 800-1000rpm
- (d) 1000-1200rpm

Answer: 400-500 rpm

The ratio of reel peripheral speed to forward speed of combine is called

- (a) velocity index
- (b) angular velocity index
- (c) reel speed index
- (d) kinematic index

Answer: reel speed index

Increasing concave length _____ seed separation at diminishing rate

- a) Increases
- b) Decreases
- c) No effect
- d) None of the

Answer: Increases

Increased amount of non-grain material on the shoe appreciably _____ the shoe loss

- a) Decreases
- b) Increases
- c) Unaltered
- d) Equal

Answer: Increases

Increase in grain/non-grain ratio on the straw walker, _____ the straw walker losses

- a) Decrease
- b) Increase
- c) Unaltered
- d) None of the above

Answer: Decrease

Increase amount of non-grain material on the straw walker _____ the walker losses

- a) Decreases
- b) Increases
- c) Unaffected
- d) Equal

Answer: Increases

Increasing the grain/non-grain ratio on shoe tends to _____ the shoe losses

- a) Decrease
- b) Increase
- c) Decrease or increase
- d) Equal

Answer: Decrease

Increasing the cylinder speed result in

- a) Increase threshing efficiency
- b) Reduce cylinder loss
- c) Increase seed damage
- d) All of the above

Answer: All the above

Increasing non-grain feed rate increase

- a) Cylinder losses
- b) seed damage
- c) Both (a) and (b)
- d) none of the above

Answer: Cylinder losses

Q. Length of cutter bar for the tractor operated mower or vertical conveyor reaper is.....

- (a) 1.5-3.0m
- (b) 3.0-4.5m
- (c) 4.5-5.5m
- (d) >5.5m

Ans:- a

Q. To overcome the rearward deflection the load given to outer end of the cutter bar is about.....

- (a) 1.57cm/m
- (b) 2.0cm/m
- (b) 3.0cm/m
- (d) 3.5cm/m

Ans:- b

4.345- Excessive stalk deflection particularly when cutting close to ground results in

- (a) Stubbles of uneven length
- (b) Increased tendency of stalk to cut by cutting unit.....
- (c) Less unevenness in cutting
- (d) Less missing or uncut stalk

Ans:- a

4.346- Side deflection of stalk can be minimized by....

- (a) Having a short cutting stroke
- (b) Having an arrangement to obtain two cuts per stroke

- (c) Both (a) & (b)
- (d) None of the above

Ans:-c

4.347- Length of cut (chopping length) can be adjusted....

- (a) Changing the speed of feed mechanism
- (b) The number of knives on feed mechanism
- (c) Changing speed of cutter head
- (d) All of the above

Ans:-d

3.348- Capacity of field choppers (chaff cutter) is affected by....

- (a) Capacity of the feed mechanism (cross-sectional area)
- (b) Rate of advance of material through throat considered as to be same linear speed of feed mechanism
- (c) Density of forage material
- (d) All of the above

Ans:- d

4.349- Pods, heads or ears & freeseeds, lost during the cutting & conveying operation are called as.....

- (a) Cylinder loss
- (b) Walker losses (rack loss)
- (c) Shoe losses
- (d) Gathering loss

Ans:- d

6. Flat bat reels are widely used because :-

- a) This works well in lodged crop
- b) This is simpler and less expensive than pick up reels
- C) This works well in upright crops
- d) Both (b) and (c)

Ans:-(d)

V-shaped sweeps are best suited for

- a) Primary tillage b) Stubble mulch tillage
- c) Rotary tillage d) Minimum tillage

Ans : b

2.A Tillage implement moving at a constant velocity is subjected to

- a) Force of gravity b) Soil force (resistance)
- c) Pull of mower d) All of the above

Ans : d

3.Forces which a tool must overcome in cutting, breaking and moving the soil is called

- a) Useful soil resistance b) Parasitic force
- c) Draft of implement d) Pull of implement

Ans : a

4.Force (including rolling resistance friction) that acts upon the stabilising surfaces such as

and sole of bottom are called

- a) Useful soil resistance b) Parasitic force
- d) Draft of implement. d) Pull of implement

Ans : b

5.Under a given set of operating conditions, the designer and operator has some control of

- a) Useful soil resistance b) Parasitic Force
- c) Draft of implement d) Pull of implement

Ans : b

6. which stage represents optimum conditions for tillage

- a) Sticky b) Plastic
- c) Friable (crumbly). d) Hard (cemented)

Ans : c

- 1) Formula for average service life of belt at a given speed is
- a) $\text{Life(hrs)} = [\text{Belt length (mm)} / \text{Total fatigue rates}] * 100$
 - b) $\text{Life(hrs)} = [\text{Total fatigue rates} / \text{Belt length (mm)}] * 100$
 - c) $\text{Life(hrs)} = [\text{Belt length (m)} / \text{Total fatigue rates}] * 100$
 - d) None of the above

Answer- A

- 2) Chain drives are stable for
- a) Constant speed ratio between parallel shafts
 - b) Distance between centre to centre is moderate
 - c) Dirty and dusty environment
 - d) All of the above

Answer- D

- 3) Loading capacity of chain drive system is based on
- a) Rate of wear
 - b) Ultimate strength of chain material
 - c) None of (a) and (b)
 - d) Both (a) and (b)

Answer- A

- 4) Rate of wear chain drive system
- a) Directly related to speed of chain
 - b) Inversely related to size of sprocket of chain length
 - c) Both (a) and (b)
 - d) None of the above

Answer- C

- 5) Tension on slack side in case of chain drive
- a) Lesser than on tight side
 - b) Greater than on tight side
 - c) Zero
 - d) Equal to that on tight side

Answer- C

- 6) Needle bearing a roller bearing having a number of smaller diameter roller is well suited to
- a) Application involving oscillating motion
 - b) Exceptionally high load capacity application at low peripheral speed
 - c) Both (a) and (b)
 - d) None of the above

Answer- C

- 7) V-belt drive transmission system is used when it is designed to achieve
- a) High speed ratio
 - b) Space requirements are limited
 - c) Both (a) and (b)
 - d) None of the above

Answer- C

Cutting speed of the impact type cutter is

- a)10-20 m/s.
- b)20-40m/s
- c)40-50m/s.
- d)46-56m/s

Ans - d

4.267 .Double knives movers offers advantage over conventional mower are

- a)Double knife are dynamically balanced
- b) They can be operated at higher forward speeds then conventional mower
- c)They produce more uniform stubble height
- d)All of the above

Ans- d

4.268 . knives of the cutter bar are scrratedin order to

- a)Increase the co-efficient of friction between crop stalk machine
- b)Reducing the deflection of stalk side ways
- c)To increase the cutting speed
- d)To improve cutting height

Ans- a

4.269 .Crank speed on the mower with conventional pit man drive is

- a)850-1000 rpm
- b)1000-1200rpm
- c)800-1150rpm
- d)1200-1600 rpm

Ans- a

4.270 . Crank speed on the mower with dynamically balanced systems

- a)850-1000rpm.
- b)1000-1200rpm
- c)850-1150rpm.
- d)1200-1600rpm

Ans- b

4.271. Improved uniformity is obtained if seed tube is inclined rear ward at _____ with vertical.

- a)5-15°
- b)15-30°
- c)30-40°
- d)40-50°

Ans- b

4.272 . Closer group spacing and accurate hill spacing is obtained with

- a) Rotary valve
- b) Transfer wheel
- c)Both a & b
- d)All of the above

Ans- c

Q. Stroke bore ratio for tractor engine is

- (a) 1.25
- (b) 1.45
- (c) 1.75
- (d) 2.00

A:- (a)

Q. When displacement volume is divided by piston displacement, what will we obtained

- (a) number of cylinders
- (b) number of power stroke per minute for all cylinders
- (c) number of revolution of the crankshaft (engine)
- (d) number of revolution of crankshaft \times number of cylinder

A:- (b)

Q. Firing order of a six cylinder engine in which no two adjacent cylinder have power stroke is

- (a) 1 5 3 6 2 4

(b) 1 2 3 4 5 6

(c) 1 5 4 6 3 2

(d) 1 4 2 5 6 3

A:- (a)

Q. Speed of a low speed engine is

(a) <350 rpm (b) 350-1000 rpm

(c) >1000rpm (d) none of the above

A:- (a)

Q. Speed of a medium speed engine is

(a) <350 rpm (b) 350-1000 rpm

(c) >1000rpm (d) none of the above

A:- (b)

Q. Speed of a high speed engine is

(a) <350 rpm (b) 350-1000 rpm

(c) >1000rpm (d) none of the above

A:- (c)

Q. Piston speed for high speed engine is

(a) 300-500 m/min (b) 100-300 m/min

(c) 500-700 m/min (d) >700m/min

A:- (a)

Diameter of pulley should be such that it gives the best speed ofmeter/minute at full throttle:

A)500 b)950

C)1500 d)2000

Answer: b

4.330.tractors are generally fitted with:

A)sliding mesh gear box

B)constant mesh gear box

C)both (a) & (b)

D)synchromesh gear box

Answer: a

4.331. High speed diesel

A) is used on high speed engine

B) has lower fuel value than l.s.d per litre.

C)both (a) & (b)

D)none of the above

Answer: c

4.332. Light(low) speed diesel

A)is used in low speed diesel engine

B)is useful for cold starting

C)has higher value than h.s.d per litre of diesel

D)all of the above

4.333. Connecting rod generally have

A)t-shape b)angle shape

C)i-shape d)flst-shape

Answer: c

4.335.ignition delay is defined as the

A)time between start of fuel injection and ignition of fuel

B)time between end of fuel injection and ignition of fuel

C)time between start of ignition and tdc

D)time between completion of ignition and bdc

Answer: a

1.A slat mould board scours better than a solid mould board because of smaller contact area resulting in

a) Reduction of adhesive force

b) Increase in soil pressure

c) Both (a) and (b)

d) None of the above

Ans.(c)

2. _____ means movement of soils across a tool surface without sticking first to avoid soil build ups

a) Pulverisation

b) Inversion

c) Scouring

d) Turning

Ans.(c)

3.Scouring will occur as long as

a) Frictional resistance at soil tool interface is less than the resistance at parallel soil-soil interface

b) Frictional resistance at soil tool interface is more than the resistance at parallel soil-soil interface

c) Soil-metal friction is more than angle of soil shearing resistance

d) None of the above

Ans.(a)

4.At smaller disc angles , the draft tends to increase in disc plough because of

a) Greater contact area between furrow wall and the convex side of the disc

b) Increase in the side draft

c) Greater throw of the soil

d) All of the above

Ans.(a)

5.Penetration of disc plough can be improved by

a) Increase disc angle

b) Decreasing tilt angle

c) Both (a) and (b)

d) None of the above

Ans.(b)

6 .Large tilt angle best for

a) Hard soil

b) Sticky and non-scouring soil

c) Dry and cemented soil

d) None of the above

Ans.(b)

1. The amount of energy required to produce a given degree of pulverisation depends primarily on

- a) Soil strength
- b) Energy utilisation efficiency of tool
- c) Both (a) and (b)
- d) None of the above

Answer: Both (a) and (b)

2. Draft increases with increase in forward speed for most of the implement, mainly due to

- a) More rapid acceleration of any soil particles that is moved appreciably
- b) More working width
- c) Increased working depth
- d) Draft decreases with increase in speed of implement

Answer: a

3. Soil acceleration increases draft because of

- a) Increased normal load on soil working surface
- b) Increased frictional resistance
- c) Kinetic energy imparted to the soil
- d) All of the above

Answer: d

4. Geometric similarity between the model and prototype signifies similarities of

- a) Motion
- b) Force
- c) Length
- d) None of the above

Answer: c

5. Kinematic similarity between the model and prototype signifies similarities of

- a) Motion
- b) Force
- c) Length
- d) None of the above

Answer: a

6. Dynamic similarity between the model and prototype signifies similarities of
- a) Motion
 - b) Force
 - c) Length
 - d) None of the above

Answer: b

1. An erratic variation of speed governor when it is over compensated for speed changes is
- a) Governor strength
 - b) Governor regulation
 - c) Governor hunting
 - d) Governor stability

Answer (c)

2. Compression pressure in diesel engine cylinder is
- a) 6-10 kg/cm²
 - b) 10-20 kg/cm²
 - c) 20-35 kg/cm²
 - d) None of the above

Answer (c)

3. Compression pressure in petrol engine cylinder is
- a) 6-10 kg/cm²
 - b) 10-20 kg/cm²
 - c) 20-35 kg/cm²
 - d) 35-40 kg/cm²

Answer (a)

4. Injection pressure of fuel nozzle in diesel engine is
- a) 30-45 kg/cm²
 - b) 50-100 kg/cm²
 - c) 120-200 kg/cm²
 - d) 200 kg/cm²

Answer (c)

5. Wood is well suited to use as bearing on straw walker cranks in combine due to fact
- a) Wood corrosion resistance
 - b) Split bearing are needed for practical purpose
 - c) It can take radial as well as thrust loads
 - d) No lubrication is required

Answer (b)

6. Tapper roller bearing are used in disc harrow because

- a) It can take heavy radial loads
- b) It can take both radial as well as end thrust
- c) It can operate effectively at low speed and in contact with dirt
- d) Both (b) and (c) are true

Answer (d)

1. 4.336 variable speed governors are used on

- Tractor engine(diesel)
- Stationary engine (diesel)
- Petrol engine
- None of the above

Answer-Tractor engine (diesel)

2. 4.337 constant speed governors are used on

- Tractor engine diesel
- Stationary diesel engine
- Petrol engine
- None of the above

Answer-stationary diesel engine

3. 4.338 specific gravity of fully charged storage battery is

- 1.15
- 1.50
- 1.28
- 2.15

Answer-1.28

4. 4.339 optimum working temperature for petrol engine is about

- 88-90°C
- 71-82°C
- 60-70°C
- 90-100°C

Answer-71-82°C

5. 4.340 optimum working temperature for diesel engine is about

- 88-90°C
- 71-82°C
- 60-70°C
- 90-100°C

Answer-88-90°C

6. 4.341 Diesel engine has less reserve torque than spark ignition because

- Torque-speed curve is governed by volumetric efficiency of fuel pump and engine cylinder
- Torque is a function of thermal efficiency

- Diesel engine has generally low speed engine
- None of the above

Answer-Torque-speed curve is governed by volumetric efficiency of fuel pump and engine cylinder

7. 4.342 Gears are generally used in the transmission box are

- spur gear only
- helical gear only
- helical and spur gear gears
- bevel gears

Answer-helical and spur gears

The force that holds two particles of the same kind together is called as

- | | |
|-------------|----------------|
| a) Adhesion | c) shear force |
| b) cohesion | d) compressive |

Answer: Cohesion

The force that holds two particles of the different kind together is called as

- | | |
|-------------|----------------|
| a) Adhesion | c) Shear force |
| b) Cohesion | d) Compressive |

Answer: Adhesion

The shape of the gross surface of the tillage tool is designated as

- | | |
|----------------|----------------|
| a) Micro shape | c) Edge shape |
| b) Macro shape | d) Gross shape |

Answer: Macro shape

_____ refer to the surface roughness of the tool

- | | |
|----------------|----------------|
| a) Micro shape | c) Edge shape |
| b) Macro shape | d) Gross shape |

Answer: Micro shape

_____ designates the shape of gross peripheral and cross-sectional boundaries of the soil working tool

- | | |
|----------------|----------------|
| a) Micro shape | c) Edge shape |
| b) Macro shape | d) Gross shape |

Answer: Edge shape

Blades of disc harrow are sharpened from the_____ side penetrate more readily than blades sharpened from the_____ side

- a) convex, concave
- b) Front, rear
- c) concave, convex
- d) Rear, front

Answer: Concave, convex

1) Number of piston rings on piston varies between

- A. 1-3
- B. 3-7
- C. 7
- D. 12
- E. >12

Ans – B. 3-7

2) Connecting rod of four stroke engine is subjected to

- A. Compressive load
- B. Tensile load
- C. Both compressive and tensile load
- D. None of the above

Ans – C. Both compressive and tensile load

3) Connecting rod of two stroke engine is subjected to

- A. Compressive load
- B. Tensile load
- C. Both compressive and tensile load
- D. None of the above

Ans – A. Compressive load

4) Differential lock offers advantage of

- A. Better drawbar pull when drive wheel are under different conditions
- B. Easier to plant in straight rows
- C. Reduces steering effort and side draft when operating with certain implements
- D. All of the above

Ans – D. All of the above

5) Center of resistance of a mould board plow less at distance equal to

- A. $1/4^{\text{th}}$ the size of plow from the share wing
- B. $3/4^{\text{th}}$ the size of plow from the share wing
- C. $2/3^{\text{th}}$ the size of plow from the share wing
- D. $1/3^{\text{th}}$ the size of plow from the share wing

Ans – B. $3/4^{\text{th}}$ the size of plow from share wing

6) Shoe type furrow openers especially suited to

- A. Stony and root infested fields
- B. Poorly prepared bed in trashy soils

- C. Hard and sticky soil with considerable amount of mulch and debris
- D. All of the above

Ans – B. Poorly prepared bed in trashy soils

7) Disc type furrow openers are especially suited to

- A. Stony and root infested soils
- B. Poorly prepared bed in trashy soil
- C. Hard and sticky soil with considerable amount of debris and mulch
- D. All of the above

Ans – C. Hard and sticky soil with considerable amount of debris and mulch

8) Speed of band operated machines chaff cutter having two knives

- F. 35 rpm
- G. 50 rpm
- H. 600 rpm
- I. 1000 rpm

Ans – A. 35 rpm

9) Speed of power operated machine chaff cutter is

- E. 35 rpm
- F. 50 rpm
- G. 600-1000 rpm
- H. None of the above

Ans – C. 600-1000 rpm

10) Length of cut for silage ranges from

- E. 2-4 cm
- F. 5-10 cm
- G. 15-20 cm
- H. 20-25 cm

Ans – A. 2-4 cm

11) Differential lock offers advantage of

- E. Threshing efficiency of thresher (power operated)
- F. Capacity of chaff cutters
- G. Cleaning capacity of straw walkers
- H. None of the above

Ans – B. Capacity of chaff cutters

12) Juice extraction capacity of vertical three roller type bullock down sugercane crusher

- E. 50-70%
- F. 70-90%
- G. 90-100%
- H. 30-50%

Ans – A. 50-70%

13) Operating pressure of the hand operated sprayer is

- E. 20-55 kg/cm²
- F. 1-7 kg/cm²
- G. 10-20 kg/cm²
- H. >55 kg/cm²

Ans – B. 1-7 kg/cm²

14) Operating pressure of power operated sprayer

- E. 1-7 kg/cm²
- F. 10-20 kg/cm²
- G. 20-55 kg/cm²
- H. >55 kg/cm²

Ans – C. 20-55 kg/cm²

15) Foam spraying requires special type of nozzle

- A. Flat fan nozzle
- B. Flooding nozzle
- C. Hollow cone nozzle
- D. Air aspirating nozzle

Ans – D. Air aspirating nozzle

1. Mould board are usually made from

- a. Soft centre steel
- b. Hardened carbon steel
- c. Chilled cast iron
- d. Mild steel

Ans: a. Soft centre steel

2. Laying out of field in lands is essential when working with

- a. Two way plough
- b. One way plough
- c. Disc harrow
- d. Cultivator

Ans: b. One way plough

3. A mould board plough bottom acts as a

- a. Single sided wedge
- b. Double sided wedge
- c. Three sided wedge
- d. All of the above

Ans: c. Three sided wedge

4. moves the trash and roots from ahead of shin towards the main furrow so as to ensure complete coverage by the plough bottom

- a. Coulter
- b. Jointer

- c. Mould board d. Shin

Ans: b. jointer

5. A long jaw mould board with a gradual twist (spiral) that completely inverts the furrow slice with a minimum of break up thus covering vegetative matter thoroughly is called

- a. Sod bottom b. Stubble bottom
c. General bottom d. Slat bottom

Ans: a. Sod bottom

6. A relative short and broad mould board is curved rather abruptly near the top resulting in a greater degree of pulverization is called

- a. Sod bottom b. Stubble bottom
b. General bottom d. Slat bottom

Ans: b. Stubble bottom

4.308- Life expectancy of V-belt in farm machinery is about....

- (a) 200-500 hrs
(b) 1000-2000 hrs
(c) 2000-5000hrs
(d) 5000-10000hrs

Ans:- b

4.309- The formula for tension difference or effective pull, required to transmit the load at....

- (a) $(T_t - T_s) = 1000(kw/V)$
(b) $T_t/T_s = c^{ke}$
(c) $(T_t - T_s) = 1000(Hp/V)$
(d) None of the above

Ans:- a

4.310- Larger tension ratio result in...

- (a) Unnecessary high tension in belt
(b) Reduction in belt life
(c) Excessive belt slippage

(d) Increase belt life

Ans:- c

4.311- Smaller tension ratio result in....

(a) Unnecessary high tension in belt

(b) Reduction in belt life

(c) Both (c) & (b)

(d) Excessive belt slippage

Ans:- c

4.312- The temperature at which flame persists for approximately five seconds is called.....

(a) Fire point

(b) Flash point

(c) Pour point

(d) cloud point

Ans:- a

4.313- The temperature at which fuel flows to case is called....

(a) Fire point

(b) Flash point

(c) Pour point

(d) Cloud point

Ans:- c

4.314- The temperature at which solid content of fuel freeze out is called....

(a) Fire point

(b) Flash point

(c) Pour point

(d) Cloud point

Ans:- d

1 . Increase in grain/non grain ratio on the straw Walker losses

- (a) Decrease
- (b) Increases
- (c) Unltered
- (d) None of the above

Answer:increases

2.Increase amount of the non grain material on the straw Walker the walker

- (a) Decrease
- (b) Increase
- (c) Unaffected
- (d) Equal

Answer : increase

3.Increase the grain/non grain ratio on the shoe tends to the shoe losses

- (a) Decreases
- (b) Increases
- (c) Decrease or increase
- (d) Equal

Answer : equal

4. Increasing the cylinder speed result in

- (a) Increase threshing efficiency
- (b) Reduce cylinder loss
- (c) Increase seed damage
- (d) All of the above

Answer : increase threshing efficiency

5. Increasing non grain feed rate increase

- (a) Cylinder losses
- (b) Seed damage
- (c) Both (a) and(b)
- (d) None of the above

Answer : cylinder losses

6. Axial flow thresher utilises

- (a) Rasp bar cylinder
- (b) Spike tooth cylinder
- (c) Hammer mill cylinder
- (d) Peg tooth cylinder

Answer: Spike tooth cylinder

7. Kinematic index of the straw Walker is as ratio

- (a) Angular velocity of straw Walker to angular velocity of threshing drum
- (b) Angular velocity of straw Walker to angular velocity of threshing drum
- (c) Angular velocity of straw Walker to linear velocity of combine
- (d) All of the above

Answer : angular velocity of straw Walker to angular velocity of threshing drum

1. Flat planting predominates where
- a) Nature moisture content is favourable
 - b) Rainfall is high to provide surface drainage
 - c) Semi arid areas to conserve moisture
 - d) None of the above

Ans- (a)

2. The average spacing of seeds or hills in field is obtained or determined by
- a) The ratio of linear or peripheral speed of seed pick up units (cells fingers, etc) to the forward speed of the planter
 - b) The distance between the speed pick up units (cells) on the metering unit
 - c) Both (a) and (b)
 - d) None of the above

Ans- (c)

3. Most commonly used metering device for bulk flow seed metering of small and medium size seeds (grains)
- a) Fluted wheel
 - b) Internal double run
 - c) Stationary opening with agitator
 - d) None of the above

Ans- (a)

4. When frequency of occurrence of overload is less but the magnitude of overload is large than safety device used is:
- a) Safety jump clutch
 - b) Shear device
 - c) Frictional device
 - d) V-belt drive

Ans-(b)

5. When frequency of occurrence of overload is less and magnitude of overload is also less than safety device used is
- a) Safety jump clutch
 - b) Shear device
 - c) Frictional device
 - d) V-belt drive

Ans-(a)

6. In comparison to jump clutches, advantages of the friction safety clutches is/are
- a) More consistent break away torque
 - b) No damaging peak during slippage
 - c) Protecting a drive from high frequency peak torque (2-3 time normal values)
 - d) All of the above

Ans-(d)

7. When V-belt drive is used a safety device, its performance is affected by
- a) Variation in belt tension
 - b) Increase in coefficient of friction as belt slippage increase
 - c) Both (a) and (b)
 - d) None of the above

Ans-(c)

1. Rotavator working in reverse direction for compacting soil and giving good touch to inter culturing is called
- a) Rotary tiller
 - b) Power tiller
 - c) Power harrow
 - d) Treader

Ans – d) Treader

2. The rotary and oscillating tool which does not turn the soil upside down is
- a) Power tiller
 - b) Rotavator

- c) Power harrow
- d) Treader and rotary tiller

Ans- c) Power harrow

3. Lowest specific energy requirement for the operation of rotavator is about _____ times as great as a mould board plough working in the same soil.
- a) Equal
 - b) Twice
 - c) Three
 - d) Four

Ans – c) Three

4. One operation of rotavator dose a job equivalent to
- a) One ploughing + two harrowing
 - b) One harrowing + two ploughing
 - c) One ploughing only
 - d) One harrowing only

Ans- a) One ploughing + two harrowing

5. Rotary tiller are wide adopted in rice cultivation due to
- a) Excessive pulverization
 - b) Suitability for pudding paddy field
 - c) Reduced draft requirement
 - d) Complete inversion of soil

Ans – b) suitability for pudding paddy field

6. Specific energy requirement of rotary tillers can be reduce by
- a) Increasing the bite length
 - b) Decreasing depth to diameter ratio
 - c) Both (a) and (b)
 - d) Excessive reduction in total power requirement

Ans – c) Both (a) and (b)

7. Rotary tillers are characterized by
- a) Lower and negative draft
 - b) High power requirement
 - c) Excessive pulverization
 - d) All the above

Ans – d) All the above

294) Lesser is the no. of teeth on sprocket, the variation in the speed of chain drive is

- a) lesser.
- b) greater.
- c) equal.
- d) unaffected

295) Limiting value of speed ratio for standard pitch roller chain is

a) 6:1. b) 10:1. C) 15:1. D) 20:1

296) Standard pitch roller are suitable for

a) speed ranging from 0.5m/sec to 20m/sec

b) Heavy loads require a compact drive

c) both a) and b)

d) none of the above

297) Detachable hook link chains suitable for

a) speed not exceeding 2-2.5m/sec

b) low capacity loads

c) both a and b

d) None of the above

298) No. of teeth on sprocket should not be less than for high speed drive to give minimum speed variation is

a) 10-12. b) 17-18. C) 8-10. D) 5-8

299) The recommended value of tension ratio for 180 degree angle when v belt is on flat pulley

a) 2.5. b) 5.0. C) 10. D) 15

300) For a given tight side tension and wheel pitch diameter increase belt speed tends to increase the fatigue rate because of

A) Greater frequency of stress cycles

B) Increased centrifugal tension at high speed

C) both a and b

D) none of above

1. Most commonly used for the metering mechanism for fertilizer

a. Spur wheel

b. Serrated wheel

c. Star wheel

d. Auger type

Ans : a

2. Recommended capacity of the seed box or hopper for manually operated seeder is

a. 2-10 lit

b. 10-60 lit

- c. 100-150 lit
- d. 200-300 lit

Ans: a

3. Recommended capacity of the seed box or hopper for animal drawn is

- a. 2-10 lit
- b. 10-60 lit
- c. 100-150 lit
- d. 200-300 lit

Ans : b

4. Recommended capacity of the seed box or hopper for tractor mounted (small size) seed drill is

- a. 2-10 lit
- b. 10-60 lit
- c. 100-150 lit
- d. 200-300 lit

Ans: c

5. Recommended capacity of the seed box or hopper for tractor mounted (large size) seed drill is

- a. 2-10 lit
- b. 10-60 lit
- c. 100-150 lit
- d. 200-300 lit

Ans: d

6. How type furrow (or shovel) opener are especially suited to

- a. Stony and root infested fields
- b. Poorly prepared beds in trashy soil
- c. Hard field with considerable debris and mulch
- d. None of the above

Ans: a

7. The metering mechanism which is most suitable for metering of small seed is to handle is

- a. Internal double run mechanism
- b. Fluted wheel mechanism
- c. Stationary opening with agitator
- d. None of the above

Ans: b

1. The metering mechanism which is suitable for the metering of small seeds as well as large grains.

- (a) Internal double run mechanism
- (b) Fluted wheel mechanism
- (c) Stationary opening with auger
- (d) None of the above.

Answer:- (a) Internal double run mechanism

2. Seed damage due to cut-off not a problem in

- (a) Horizontal plate metering mechanism
- (b) Vertical plate metering mechanism
- (c) Both (a) and (b)
- (d) Inclined plate metering mechanism

Answer:- (d) Inclined plate metering mechanism

3. Cell fill is affected by

- (a) Seed size
- (b) Cell speed
- (c) Cell size
- (d) All of the above

Answer:- All of the above

4. Variation in the drop size of seed can be minimised by

- (a) Using a short, smooth, small diameter tube with the discharge end close to bottom of furrow.
- (b) Discharging the seed directly from the metering device within a few centimetres of the furrow bottom.
- (c) Mechanically transferring the seeds from the metering unit in the furrow.
- (d) All of the above.

Answer:- All of the above

5. Cut-off device is not required with

- (a) Inclined plate metering
- (b) Horizontally plate metering
- (c) Vertically plate metering
- (d) All of the above

Answer:- Inclined plate metering

6. Lister planting or furrow planting is practiced for

- (a) High rainfall areas to improve surface drainage
- (b) Semi-arid conditions to place seed deep in moist soil
- (c) Areas where natural moisture conditions are favourable
- (d) Irrigated areas leaving more space for operation of equipments

Answer:- (b) Semi-arid conditions to place seed deep in moist soil

7. Bed planting is practiced for row crops in

- (a) Semi-arid conditions to place seed deep in moist soil
- (b) High rainfall areas to improve surface drainage
- (c) Irrigated areas leaving more space for operation of equipments
- (d) Both (b) and (c)

Answer:- (d) Both (b) and (c)

1. The size of a seed rill is expressed by:
 - A. Amount of seed sown per unit time.
 - B. Length x width of the machine.
 - C. Area covered per unit time.
 - D. The number of furrow openers x distance between two furrow openers.

Ans: D

2. The type of bearing generally used to support the discs on a standard disc plough is:
 - A. Ball bearing.
 - B. Tapered roller bearing.
 - C. Plain roller bearing.
 - D. Bush bearing.

Ans: B

3. For a given spray sample:
 - A. The volume median diameter (VMD) is equal to number median diameter (NMD).
 - B. The VMD is less than the NMD.
 - C. The VMD is larger than the NMD.
 - D. None of the above.

Ans: C

4. In a precision planter the height of seed drop:
 - A. Should be as close to be ground level as is possible.
 - B. Should be at least 1 m from the ground level.
 - C. Is not a factor to be considered?
 - D. None of These

Ans: A

5. The cutter bar of a tractor operated mower ordinarily makes:
 - A. 800-1200 strokes/min
 - B. 1600-2000 strokes/min

- C. 2400-2800 strokes/min
- D. 3200-3600 strokes/min

Ans: A

6. The method which depreciates the tractor or machine to zero at the end of its expected life is known as:
- A. Estimated value
 - B. Sum-of-the digits
 - C. Declining balance
 - D. Straight line

Ans: D

7. A power tiller is most suited for rotary cultivation because:
- A. It generates negative draft
 - B. Its traction requirements are low
 - C. It provides high degree of soil pulverization
 - D. All of the above

Ans: D

8. A power tiller is relatively more suitable for :
- A. Puddling of low land paddy fields with a rotary tiller
 - B. Primary tillage of upland paddy fields with a rotary tillers
 - C. Primary tillage with a mould board plough
 - D. Farm transportation work

Ans:- Puddling of low land paddy fields with a rotary tiller

9. The type of restrained three point linkage system in which the depth of implement is automatically adjusted to maintain a pre selected constant draft is called :

- E. Automatic draft control system
- F. Precision control system
- G. Depth control system
- H. None of the above

Ans:- Automatic draft control system

10. The sound level of an agricultural tractor should not exceed :

- I. 110 dB
- J. 100 dB
- K. 90 dB
- L. 80 dB

Ans:- 90dB

11. A power tiller is most suited for :

- A. Draft operation with rigid tools
- B. Rotary cultivation
- C. Stationary operation
- D. Transport work

Ans:- Rotary cultivation

12. Cylinder loss in a stationary power thresher can be reduced by increasing the :

- M. Cylinder peripheral speed
- N. Concave clearance
- O. Blower speed
- P. All of the above

Ans:- Cylinder peripheral speed

13. The bearing material that is most susceptible to corrosion is :

- Q. Babbit
- R. Copper-lead
- S. Aluminium
- T. Aluminium-babbit

Ans:- babbit

14. One of the main advantages of disc brakes over drum brakes is that the disc brake :

- U. Can stop a vehicle in a shorter distance
- V. Is more heat resistant
- W. Weighs less than drum brakes
- X. Requires less pedal force to stop the vehicle

Ans:- Requires less pedal force to stop the vehicle

15: An animal drawn seed drill has k number of furrow openers 180mm apart. If the speed of the operation is 2.0kmph then the area covered (ha), in 8 hr day is given by:

- a) $1.85/1000k$
- b) $28.8 * 10^{-2}k$
- c) $k/6.456$
- d) $1.762k$

Answer: (b)

16: The landside of a mould board plough is made of:

- a) Malleable iron
- b) Forged steel
- c) C45 steel
- d) Soft centre steel

Answer: (d)

17: In an epicycle gear reduction unit, the ratio of the number of teeth of the internal gears to the sun gear is:

- a) 3:1
- b) 4:1
- c) 2.5:1
- d) 4.5:1

Answer: (b)

18: In hydraulic sprayers, the degree is primarily a function of:

- a) Liquid pressure and the nozzle characteristics
- b) Air velocity
- c) Size of the nozzle
- d) Shape and size of the atomizer

Answer: (a)

19: The virtual hitch point of a directional implement is located at:

- a) Near the front axle
- b) 40 mm towards the rear axle
- c) At the power take off shaft
- d) Between two lower links

Answer: (d)

20: Heavy draft of a disc plough is due to:

- a) Blunt disc
- b) Furrows too wide
- c) Loose bearings
- d) All of the above

Answer: (d)

21: Puddling is done to:

- a) Reduce percolation of water
- b) Kill weeds
- c) Pulverise soil
- d) Level the fields

Answer: (a)

22. Combustion process is

- a) Endothermic
- b) Exothermic
- c) isothermal
- d) None of the above

Answers:- b)

23. Spray Angle for fan nozzles and hollow cone nozzle

- a) 40-50
- b) 50-60
- c) 60-95
- d) 100-150

Answers:- c)

24. What is natural frequency of driver seat suspensions

- a) 0.5-1.5 Hz
- b) 1.5-4.0 Hz
- c) 4.0-6.0 Hz
- d) 4.0-10 Hz

Answers:- a)

25. Axial flow thresher uses

- a) Raspbar type cylinder
- b) Serrated disc type cylinder
- c) Spike tooth
- d) Hammer mill

Answers:- a)

26. Which end of disc harrow tends to penetrate more deeply

- a) Concave
- b) Convex
- c) Rear

d) Front

Answers:- a)

27. Land shaping becomes essential where often the following implement is used

a) M.B. Plough

b) Disc Harrow

c) Cultivator

d) All of the above

Answers:- a)

28. An old-fashioned thresher is operated

(A) Manually

(B) By a pair of Bullocks

(C) By a tractor

(D) By an electric motor

Ans-B

29. Planters differ from a seed drill in respect of-

(A) kind of power transmission system

(B) kind of metering mechanism

(C) kind of furrow opener used

(D) all of the above

Ans-B

30. The purpose of registration in a mower is

(A) to get uniform length of cut of grass

(B) to run the mower at minimum power

(C) to run the mower at uniform torque

(D) to reduce the occurrence of overload

Ans-B

31-The average threshing outrun of a paddy in kg/hr is

(A) 500

(B)650

(C)800

(D)1000

Ans-B

32-GOOD EARTH is one of the important make of

(A) tractor

(B) electric motor

(C) diesel engine

(D)power tiller

Ans-A

33-The use of tractor is considered economical when it is utilised for

(A) 800hrs/year

(B)1000hrs/year

(C)1200hrs/year

(D)1400hrs/year

Ans-B

34-Normal consumption of fuep in ltrs/hr. by a 35hp tractor is

(A) 2.5

(B)3.0

(C)3.5

(D)4

Ans-B

35.which of the following tractor has the cair cooled engine?

A)ford b)eicher

C)international d)hmt

Answer: b

36: the time taken to plough one acre farm with 35 hp tractor is :

- A)60 minutes b)75 minutes
C)90 minutes d)120 minutes

Answer: b

37. A dry land weeder covers an area (in hactare) per day (8 hour):

- A)0.1 b)0.2
C)0.3 c)0.4

Answer: b

38. The first tractor plant in india was set up by :

- A)hindustan b)hmt
C)eicher d)ford

Answer: c

39. How many units of electricity per hp per hour is used by electric motor:

- A)0.44 b)0.66
C)0.88 d)1.10

Answer: c

40. The estimated useful life of diesel engine is:

- A)8 years b)10 years
C)12 years d)14years

Answer: b

41. Annual depreciation of a machine is included in :

- A)fixed cost b)variable cost
C)hiring cost d)none of them

Answer: a

42.Land shipping become necessary often the following implments is used:

- a. MB plough b. Disc harrow
c. Cultivator d. All of these

ANS- option A

43.The items of fixed cost are:

- a. Depreciation and labour
- b. insurance and repair
- c. Taxes and fuels
- d. Interest and housing

ANS- option D

44. Sweeps are used for:

- a. Seedbed preparation
- b. Ridging
- c. Earthing plants
- d. Mulching

ANS- option D

45. Land plane is ideally suited for:

- a. Land leveling
- b. Earth moving
- c. Final grading
- d. Top finishing

ANS- option D

46. Vertical suction of plough influences:

- a. Pulverization
- b. Depth of cut
- c. Width of cut
- d. Direction of cut

ANS- option B

47. Disc angle adjustment influences:

- a. Depth of cut
- b. width of cut
- c. Soil break up
- d. Direction of travel

ANS- option B

48. A coulter attachment is used with:

- a. Disc harrow
- b. Seed drill
- c. MB plough
- d. Sub soiler

ANS- option C

49. A 2m combine is operating at 4 kmph with an overall efficiency of

75%. The area covered by in (ha/h) will be:

- a. 0.4
- b. 0.6
- c. 0.8
- d. 1.0

Ans: b

50. A reaper used for :

- a. Cutting crop
- b. Cutting and windrowing
- c. Cutting and threshing
- d. None of these

Ans: b

51. The upper safe noise level for machine operator is :

- a. 85db
- b. 100db
- c. 110db
- d. 115db

Ans :-a

52. Puddling is done to achieve :

- a. Soft soil bed
- b. Non leaching of water
- c. Size reduction of clods
- d. Conservation of moisture

Ans:- b

53. A thresh causes more seed damage if :-

- a. Seed is increase
- b. Clearance is increased
- c. Feed rate is reduced
- d. Seed is reduced

Ans:- a

54. Dead furrow is made by:

- a. One way MB plough
- b. Two way MB plough
- c. Ridger
- d. Disc harrow

Ans:- a

55. The two primary tillage equipment

- a. MB plough and disc harrow
- b. Disc plough and disc harrow
- c. Disc harrow and cultivator
- d. MB plough and subsoiler

Ans:-d

56, The depth of penetration of a disc harrow is increased by:

- a) Tilt angle
- b) Gang angle
- c) Disc angle
- d) All of above

Ans. B

57, Equipment for placing seeding in the soil called:

- a) Seed drill
- b) Seed cum fertilizer drill
- c) Planter
- d) Transplanter

Ans. D

58, the mowers are designed to cut:

- a) Wheat
- b) Paddy
- c) Mustard
- d) Grasses

Ans. D

59, The two types of cylinder used on power wheat threshers are:

- a) Serrated disc and rasp bar
- b) Spike tooth and wire loop type
- c) Spike tooth and hammer mill
- d) Hammer mill and flails

Ans. c

60, ASPEE are famous for manufacturing:

- a) Tractor
- b) Power tillers
- c) Ploughs
- d) Sprayers

Ans. D

Q.61, The commonly used power transmission system in ferti seed drills are:

- a) China-sprocket and gears
- b) Gears and belt pulleys
- c) Belt pulleys and cams
- d) Belt pulleys and chain sprocket

Ans. D

Q.62, Tilt angle in a disc plough varies from:

- a) 5-10 deg.
- b) 10-15 deg.
- c) 15-25 deg.
- d) 25-30 deg.

63. A low mold board with gradual twist that completely invert the furrow slice with a minimum of breakup, thus covering vegetative matter thoroughly is called

- a. Stubble bottom
- b. sod bottom
- c. salted mould board
- d. general purpose bottom

ANS. B

64. Subsoiler plough is best suited for

- a. breaking hard pan
- b. deep ploughing
- c. making ditches
- d. inter cultivation

ANS. A

65. In check rowing the seed spacing is

- a. constant
- b. continuous
- c. same as the rows
- d. none of these

ANS. C

66. The unit draft of an indigenous plough making a 20cm wide and 10cm deep v shape furrow is 70 kg per sq. cm the draft is

- a. 50kg
- b. 60kg
- c. 70kg
- d. 80kg

ANS .

67. For maximum moisture conservation ploughing is done with

- A. mb plough
- b. cultivator
- c. chisel plough
- d. dice harrow

ANS. C

68. total grain loss in a combine increase with

- a. increase in forward speed
- b. decrease in stubble Height
- c. increase in concave clearance
- d. all of the above

ANS. D

69. A threshing cylinder of 15cm radius is rotating at 700rpm if peripheral velocity (m/sec) will be

- a. 11
- b. 105
- c. 210
- d. 660

ANS .A

70. Spiral gear Is used to transmit power between two shafts place at:

- a) An angle to each other
- b) In different planes

- c)Both(a)and(b)
- d)None of the above

Ans:- c)Both(a)and(b)

71. Gears are used for:

- a)changing the speed rotation
- b)changing direction of rotation
- c)changing direction of shafting
- d)all of the above

Ans:- d)All of the above

72. Roller chains are used for:

- a)Higher speed and higher loads
- b)made of high grade steel
- c)components are harden and polished
- d)All of the above

Ans:- d)All of the above

73. Hook link chains are

- a)suitable for external drive exposed atmosphere
- b)made of meable iron
- c)used where power requirement is low and speed is low
- d)All of the above

Ans:- d)All of the above

74. Most important factor affecting threshing efficiency

- a)peripheral speed of the drum
- b)cylinder concave clearance
- c)moisture content of crop
- d)feed rate

Ans:- a)peripheral speed of the drum

75. Worm gears are used for transmitting power between two shafts

- a)at right angle to each other and cannot intersect each other
- b) at right angle to each other and can intersect each other
- c)at angle to each other
- d)shafts on different plane

Ans:- a)at right angle to each other and cannot intersect each other

76. Width of cut of disc plow is increased by

- a)Increasing disc angle
- b)Increasing tilt angle
- c)addition of more weight

d)Decreasing disc angle

Ans:- a)Increasing disc angle

77. Thresher blows broken grains with chaff due to

- a) Higher cylinder speed.
- b) More feed Rate
- c) More cylinder concave clearance
- d) Moisture content of the crop is more

Ans. A

78. Which one of the below is a multipurpose tool

- a) Indigenous plough
- b) Cultivator
- c) Multipurpose tool bar carrier
- d) M.B plough

Ans. C

79.In a disc plough with the increase in the disk angle, the transverse component of reaction will

- a)Increase
- b) Decrease
- c) Unaffected
- d) None of the above

Ans. A

80. Durability of the fertilizer increases with

- a) Increase in the kinetic angle of repose
- b) Decrease in the kinetic angle of repose
- c) Decrease in the speed of the forward travel
- d) None of the above

Ans. B

81.Increase length of a land slide of a one bottom right hand mould board plough will

- a) Increase the amount of offset on tractor

- b) Decrease the amount of offset
- c) No affect
- d) Affect Completely

Ans. C

82. Depth of working of a tillage implement is controlled by

- a) Furrow Wheel
- b) Gauge Wheel
- c) Cage Wheel
- d) Star Wheel

Ans. D

83. The ideal moisture content for the soil primary tillage operation

- a) Upper plastic limit of the soil
- b) Lower plastic limit
- c) Wilting Point
- d) All of the above

Ans. A

84 . In a horizontal plate type planter maximum obtainable value of cell fill is :

- A. Greater than 100%
- B. Less than 100%
- C. 200%
- D. None of the above

Ans. A

85 . In standard disc plow the tillage angle varies between:

- A. 30-40 °
- B. 40-45 °
- C. 20-25 °
- D. 2-3 °

Ans-c

86. subsoilers are operated at maximum depth of:

A.30-40cm

B.45-75cm

C.75-90cm

D.10-20cm

Ans.B

87. For operating rotavator on trashy soils which tines are better:

A L-shaped

B.Hook shaped

C.Backward curved tip twist blade

D.Straight blade

Ans-A

88. Horizontal component of pull perpendicular to the line of motion is called:

A.Draft

B.Side draft

C.Transerve component

D. Pull

Ans-B

89. Hollow cone nozzles employed on boom type of sprayers have spray angle between :

A .30-60°

B.40-60°

C.60-95°

D.100-150°

Ans-c

90. Peripheral velocity of impact cutter is about:

A.50m/sec

B.20m/sec

C.10m/sec

D.5m/sec

Ans-A

91..Mild steel is an alloy with carbon content

a)0.25%. b)5%

c)10%. d)25%

Ans-0.25%

92.Total force exerted upon the implement by a power unit called

a)pull. B) draft

C)side draft. D)unit draft

Ans-pull

93.Tillage tool moving with uniform velocity is subjected to

A)force of gravity. B)pull of power source

C)soil reaction. D)all of the above

Ans-all of the above

94.Share for use in sandy soils are made of

A)chilled cast iron. B)cast iron

C)mild steel. D)gun metal

Ans-chilled cast iron

95.For rotary cutting blade the proper cutting quality is affected by

A)rates of forward speed to blade per pheral speed

B)radius of rotation of cutting blade

C)feed per blade

D)all of these

Ans-all of these

96.Desired tension in an open belt drive system can be maintained (without changing center to center distance between two pulley)by using

A)ldler pulley. B)slide rail

C) Tilting angle. D)none of the above

Ans-ldler pulley

97.Tension on the slack side in chain drive is

A)more than on tight side. B)less than on tight side. C)zero. D)equal to tight side

Ans-zero

98. Lister plows especially suitable for

- a.) Dry land agriculture. b.) Breaking hard pan.
c.) Earthing plants. d.) Mulching.

Ans. a

99. Adjustment needed when thresher blows grains with chaff

- a.) Decreasing cylinder peripheral speed.
b.) Increasing cylinder speed.
c.) Decreasing feed rate.
d.) Increasing cylinder

Ans. a

100. Reaper is used for

- a.) Plowing b.) Harvesting and threshing.
c.) Cutting crops. d.) Cutting and windrow.

Ans. d

101. The amount of liquid required for ground spraying of agricultural crops is :

- a.) 400-600L/ha b.) 200-400L/ha
c.) 1000-2000L/ha d.) 600-800L/ha

Ans. a

102. The amount of liquid required for spraying of plantation crops is :

- a.) 200-400L/ha b.) 400-600L/ha
c.) 600-800L/ha d.) 1000-1200L/ha

Ans. d.

103. Nozzle spacing on boom is governed by

- a.) Type of spray b.) Height of crops
c.) Density of crop d.) All of the above

Ans. d

104. Farming operation which requires maximum energy

- a.) Sowing b.) Interculture
c.) Tillage d.) Harvesting

Ans. c

105- Material used for hand slide is

- (a) chilled cast iron. (b) cast iron
- (c) mild steel. (d) gun metal

Ans- c

106- Back furrow is caused while plowing is done

- (a) center to side (b) side to center
- (c) one way plowing. (d) none of the above

Ans- a

107- Dead furrow open furrow is called when plowing is done by

- (a) Center to side
- (b) side to center method
- (c) one way plowing
- (d) none of the above

Ans- b

108.- Size of MB plow is determined by

- (a) depth of cut
- (b) width of cut
- (c) number of accessories
- (d) none of the above

Ans- b

109- Average pull developed by a pair of bullocks

- (a) 1/10 of their body weight
- (b) Equal to body weight
- (c) 1/2 of their body weight
- (d) None of the above

Ans- a

110.- The nozzle used for chemical spraying of weedicides

- (a) hollow cone nozzle
- (b) solid cone nozzle
- (c) flat fan nozzle
- (d) flooding nozzle

Ans- c

111 - Flooding nozzles are generally operated with

- (a) Axis vertical
- (b) Axis horizontal
- (c) Inclined
- (d) None of the above

Ans- a

112. Off-set disc harrows are best suitable to work for

- a) primary implement
- b) breaking clods
- c) orchard cultivation
- d) surface finishing

ANSWER: c) orchard cultivation

113. Harvesting of wheat with bullock drawn reaper and making bundles could require

- a) 2 persons
- b) 3 persons
- c) 4 persons
- d) 5 person

ANSWER: A) 2 Persons

114. The number of knives on powered chaff cutter

- a) 2-6
- b) 1-2
- c) 5-10

d) 10-20

ANSWER: A) 2-6

115. Combustion process is an

a) Endothermic

b) exothermic

c) isothermal

d) none of the above

ANSWER: B) exothermic

116. Spray angle for fan nozzle and hollow cone nozzle

a) 40-50

b) 50-60

c) 60-95

d) 100-150

ANSWER: C) 60-95

117. What is the natural frequency of driver seat suspension

a) 0.5-1.5 Hz

b) 1.5-4.0 Hz

c) 4.0-6.0 Hz

d) 4.0-10 Hz

ANSWER: A) 0.5-1.5 Hz

118. Flooding nozzle have spray angle

a) 100-150

b) 90-100

c) 60-95

d) 30-45

ANSWER: A) 100-150

119. Axial flow thresher uses

a) Raspbar type cylinder

b) Serrated disc type

- c) Spike tooth
- d) Hammer mill

Answer (a)

120. What is the value for centrifugal torque for maximum power transmission in belt drives

- a) $\frac{1}{2}$ maximum torque
- b) $\frac{2}{3}$ maximum torque
- c) $\frac{3}{4}$ maximum torque
- d) None of the above

Answer (d)

121. Which end of the disc harrow penetrates deeply

- a) Concave
- b) Convex
- c) Rear
- d) Front

Answer (a)

122. Land shaping becomes essential where often the following implement is used

- a) M.B. Plough
- b) Disc plough
- c) Cultivator
- d) All of the above

Answer (a)

123. Which one is a transmission dynamometer

- a) Torsion dynamometer
- b) Froues hydraulic dynamometer
- c) Belr dynamometer
- d) Proney brake dynamometer

Answer (a)

124. An engine is called I or valve in head engine when

- a) Valve are immediately above the cylinder
- b) Both valves are on one side
- c) Both valves are on opposite direction
- d) None of the above

Answer (a)

125. Land plane is ideally suited for

- a) Land levelling
- b) Earth moving
- c) Final grading
- d) Top finishing

Answer (d)

126. In the following the precision planter is:

- A. seed drill B. broadcaster
- C. Dibbler D. dofaan

Ans- c

127. The upper safe noise level for machine operator is:

- A. 85 db B. 100db
- C. 110db D. 115db

Ans- a

128.. Multiple universal joint are preferred over single joint because they :

- A. provide higher strength B. minimize speed fluctuation
- C. are lighter in weight D. are more flexible

Ans- b

129. Scouring indicates:

- A. movement of soil on tool surface B. sticking of soil on tool surface
- C. inversion of soil D. none of the above

Ans- a

130. Instrument used for measuring the depth & width of ploughing :

- A. penetrometer B. width meter
- C. depth meter D. width and depth meter

Ans- a

131. Soil strength is determined by:

- A. penetrometer B. micrometer
- C. hydrometer D. dynamometer

Ans- d

132. Atomization of spray fluid can achieved by :

- A. discharging the liquid through an orifice under pressure
- B. by breaking up the jet of liquid by a blast of _____
- C. both A & B
- D. none

Ans- c

133: swirl plate in the cone nozzle is provided to.

- a. Impart rotational motion to the liquid passing through it.
- b. To increase the droplet size.
- c. To decrease the droplet size.
- d. To increase the spray angle.

Answer:(a)

134: power spray are operated at a pressure.

- a. 5-10 kg/m²
- b. 10-20 kg/m²
- c. 20-55 kg/m²
- d. >55 kg/m²

Answer:(c)

135: Agitator(propeller or paddle)type for agitating liquid in power sprays have a velocity of

- a. 100-120 rpm
- b. 60-100 rpm
- c. 10-20 rpm
- d. none of the above

Answer:(a)

136: Flow rates of particular nozzle is directly proportional to

- a. square root of pressure
- b. orifice area
- c. Both (a) and (B)
- d. none of the above

Answer:(c)

137: In electrostatic spraying the total volume of liquid to be sprayed over one Hectare is

- a. <1 litres
- b. 50 litres
- c. 100 litres
- d. >100 litres

146. An animal drawn seed drill has k number of furrow openers 180mm apart. If the speed of operation is 2.0kmph, the area covered (ha), in 8-11day is given by:

- A. $1.85/1000k$
- B. $28.8 \times 10^{-2}k$
- C. $k/6.56$
- D. $1.762k$

Ans: B

147. The land side of a mould board plough is made of:

- A. Malleable iron
- B. Forged steel
- C. C45 steel
- D. Soft Centre steel

Ans: D

148. For a given spray sample:

- A. 3:1
- B. 4:1
- C. 2.5:1
- D. 4.5:1

Ans: B

149. In Hydraulic sprayers, the degree of atomization is primarily a function of

- A. Liquid pressure and the nozzle characteristics
- B. Air velocity
- C. Size of the nozzle
- D. Size and shape of the atomizer

Ans: A

150. The cutter bar of a tractor operated mower ordinarily makes:

- A. Near the front axis
- B. 40mm towards the rear axis
- C. At the power take off shaft

D. Between the two lower Links

Ans: D

151 Heavy draft of a disc plough is due to:

- A. Blunt disc
- B. Furrows too wide
- C. Loose bearings
- D. All are correct

Ans: D

152 Puddling is done to:

- A. Reduce percolation of water
- B. Kill weeds
- C. Pulverize soil
- D. Level the field

Ans: A

153. The mechanical cleaning of sugar cane is done due to

- A. The difference in the peripheral velocity of rollers
- B. Rough surface provided on the outer surface of rollers
- C. Blow of air which forces the extraneous material out of the machine
- D. All of the above

ANS. All of the above

154. Cleaning of sugarcane is obtained at peripheral speed

- A. 12-15m/sec
- B. 18-20m/sec
- C. 20-25m/sec
- D. 25-30m/sec

Ans. 18-20m/sec

155. Formula for established plant to the seed sown based on the delivery rate (kg/ha) is

A. $CI = [(E \times 10000) / (D \times W)] \times 100$

B. $CI = [E / (N + E)] \times 100$

C. Both (A) and (B)

D. None of (A) and (B)

ANS. (A)

156. Formula for established plants to the speed sown based on the dug seed is given by

A. $CI = [(E \times 10000) / (D \times W)] \times 1000$

B. $CI = [E / (N + E)] \times 100$

C. Both (A) and (B)

D. None of (A) and (B)

ANS. (B)

157. Engine power output is a function of

A. Crank shaft torque

B. Speed

C. Both (A) and (B)

D. None of the above

Ans. C

158. Swinging drawbar is advantageous because it help

A. Taking short turn with machine wider than the tractor

B. Reduces side draft

C. Leaves only small area uncovered at corner of the field

D. All the above

Ans. A

159. Slip of belt is responsible for

A. Reduction in speed

B. Reduction in power

C. Reduction in belt life

D. All of the above

Ans. D

160 Belt Tension can be adjusted by

- a. idler pulley
- b. slide rails
- c. tilting plate drive
- d. all the above

Ans- d

161. Function of idler pulley are

- a. to increase the angle of contact of belt on pulley
- b. maintain belt tension as belt stretches
- c. center to center distance remain same
- d. all the above

Ans- d

162. Length of open belt is given by formula

- a. $L = [2C + (\pi/2)(D_1 + D_2)] + [(D_1 - D_2)^2/4C]$
- b. $L = [2C + (\pi/2)(D_1 + D_2)] + [(D_1 + D_2)^2/4C]$
- c. $L = [2C + (\pi/2)(D_1 + D_2)] + [(D_1 + D_2)^2/4\pi C^2]$
- d. $L = [2C + (\pi/2)(D_1 - D_2)] + [(D_1 - D_2)^2/4\pi C^2]$

Ans-a

163. V -belt are most suitable for

- a. less space requirements
- b. use with adjustable pulley for speed change
- c. both (a) and (b)
- d. none of the above

Ans- c

164. Gears commonly used on fuel injection pumps are

- a. Spur gears
- b. helical gears
- c. rack and pinion
- d. spiral gears

Ans- c

165. Spiral gear are used for transmitting power between two

shaft Inclined at

- a. Right angle to each other and axes can intersect
- b. Right angle to each other and axes cannot intersect
- c. At angle slightly lesser or greater than 90° of axles can meet
- d. None of the above

Ans- c

166. Worm gear are used for transmitting power between two

Shaft Inclined at

- e. At right angle to each other and axes can intersect
- f. At right angle to each other but axis cannot intersect each other
- g. At right angle to each other and in different planes
- h. None of the above

Ans- b

167 . Carbon content in the cast iron is

- (A) 2.5 – 4.5 %
- (B) 0 – 0.25 %
- (C) 0.25 – 0.50 %
- (D) 0.50 – 1.5 %

ans-: (B)

168 . Medium Carbon steel was carbon content about

- (A) 0.25 %
- (B) 0.25 – 0.50 %
- (C) 0.50 – 1.5 %
- (D) 2.5 – 4.5 %

ans-: (B)

169 . High carbon steel having carbon content about

- (A) 0.25 %
- (B) 0.25 – 0.50 %
- (C) 0.50 – 1.5 %
- (D) 2.5 - 4.5 %

ans-: (C)

170. Bronze is an alloy of copper, zinc , and tin having composition

- (A) 60% - 30% - 10%
- (B) 70% - 20% - 10%
- (C) 88% - 2% - 10%
- (D) 50% -30% - 20%

ans:- (C)

171 . Brass is an alloy of copper and zinc having the relative percentage

- (A) 60-70% Cu and 30-40% Zn
- (B) 50-60% Cu and 40-50% Zn
- (C) 40-50 % Cu and 60-50% Zn
- (D) 30-40 % Cu and 60-70% Zn

ans -: A

172. Rated speed of an engine is the speed at which an engine develops

- (A) Maximum crankshaft torque
- (B) Maximum brake horse power output
- (C) Maximum thermal efficiency
- (D) Maximum drawback pull

ans:- (B)

173. Volumetric efficiency is affected by

- (A) Turbulence velocity and temperature of intake manifold
- (B) Efficiency of exhaust stroke
- (C) Valve timing overlap
- (D) All the above

ans-(D)

174.A traction fitted with diesel engine will have good slogging ability as lugging ability if it has a reserve of

- | | |
|-----------|------------|
| a.500 rpm | d.200 rpm |
| c.300 rpm | e.1000 rpm |

Ans: 500 rpm

175.Detonation is favoured by

- a. Low crankshaft speed at full throttle
- b. Higher loads
- c. Both (a) and (b)
- d. None of the above

Ans: Both (a) and (b)

176.Total mechanical losses (frictional losses , pumping loss in intake and exhaust and power accessories) will amount to

- a.10-20 % ihp
- b.2-10 % ihp
- c.20-30 % ihp
- d.30 -50 % ihp

Ans: 10-20 % ihp

177.Hook type blades best suited for

- e. Minimum tillage of trashy land at shallow depths
- f. Dried hard soils
- g. Cutting and pulverisation especially in wet sticky clay soil
- h. Working under normal field conditions

Ans: Dried hard soils

178.L shaped blades are best suited for

- i. Minimum tillage of trashy land at shallow depths
- j. Dried hard soils
- k. Cutting and pulverisation in wet sticky clay soil
- l. Working under normal field conditions

Ans : Minimum tillage of trashy land at shallow depths

179.Curved twisted blades are specially suited for

- m. Minimum tillage of trashy land at shallow depths
- n. Dried hard soils
- o. Cutting and pulverisation in wet sticky clay soil
- p. For operating on the sides of plant bed

Ans: For operating on the sides of plant bed

180.Power tillers are popularly available in hp range of

- q. 6-12 hp
- r. 12-20 hp
- s. 1-6 hp
- t. 20-50 hp

Ans: 6-12 hp

181. For optimum working the slip should not exceed

- a) 15%
- b) 20%
- c) 25%
- d) 30%

Answer : a

182. Optimum operating speed of rotavator is

- a)20-150rpm b)150-350rpm c)350-500rpm d) >500rpm

Answer : b

183. Formula for adding weight (ballast) on tractor tyres working in loose wet soil for good traction

- a)(km/hr × kg/PTO kw)=540
b)(km/hr × kg/PTO kw)=670
c)(km/hr × kg/PTO HP)=540
d)(km/hr × kg/PTO HP)=670

Answer: a

184. Suggested or recommended difference in mass to power ratio between ballasted and unballasted tractor is of the order

- a)10kg/PTO KW
b)6kg/PTO kw
c)20kg/PTO kw
d)30kg/PTO kw

Answer: b

185. Dual wheels have disadvantage of

- a)reducing soil contact pressure and sub soil compact negative pressure
b) concentrating load over an area
c)reduces load on area by 50%
d) none of the above

Answer: b

186.Fandem wheels are preferred over dual wheels because

- a) they tends to reduce load on an area by50%
b)they tends to reduce soil contact pressure
c)reduces sub soil compact ness pressure
d)none of the above

Answer: a

187. Weight per unit of drawbar power is generally ranges between

- a)50-120kg/kw
- b)120-150kg/kw
- c)150-250kg/kw
- d)250-300kg/kw

Answer: a

188.Main function of cutout relay in electrical circuit is

- A. To prevent the reversal of current flow from the battery when dynamo speed (engine speed) reduces.
- B. To restrict the maximum output at high speed.
- C. To permit the generation to deliver current to the battery or to the lightening and ignition circuit.
- D. None of the above

Ans-A

189.main function of the current regulator is

- A. To prevent the reversal flow of current from the battery when dynamo speed is drops.
- B. To safeguard against flow of high currents to battery when armature develops more current.
- C. To prevent building up of high voltage in a circuit.
- D. None of the above

Ans-B

190.Alternators are preferred over dynamo because

- A. Alternators can produce a strong current of 30-40 amperes.
- B. Alternators don't required cutout reiny
- C. Alternators don't have commutaters
- D. All of the above

Ans-D

191.Utility index is a indication of

- A. Work machine contact hours
- B. Wear out life of machine
- C. Operating cost of machine
- D. Reliability of machine working

Ans-A

192. When the valves are carried in engine block at one side of each cylinder is called

- A. Valves in head arrangements
- B. L-head
- C. I-head
- D. None of the above

Ans-B

193. Turbochargers or superchargers increase engine power by

- | | |
|-----------|------------|
| A. 10-20% | C. 50-60% |
| B. 20-30% | D. 90-100% |

Ans-A

194. Turbochargers are driven by

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

Ans-B

195. Superchargers are driven by

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

Ans-C

196 Transplanter using soil bearing seedlings are more popular than washed root seedling transplanter because of

a) less labour requirement b) lesser plant missing percentage c) higher work rates d) all of the above

ans;- D

197. Lewis formula is used in the design of

a) gears b) clutch c) chain drive d) belt drives

ans;- A

198. Air output of a duster is given by formula

a) $Q = 60 \times A \times V$ b) $Q = 60 \times A \times (2GH/Y)$ c) $Q = 240 \times A \times h$ d) all of the above

ans;- D

199. Optimum operating cylinder speed for the power operated maize sheller is

a) 200-400rpm b) 400-600rpm c) 600-800rpm d) 1000-1200rpm

ans;- C

200. Optimum operating cylinder speed for wheat threshing using power operated thresher is

a) 300-400rpm b) 400-600rpm c) 600-800rpm d) 1100-1200rpm

ans;- D

201. Optimum speed for grains like gram,pea,etc.,thresher using power is

a) 300-400rpm b) 400-600rpm c) 600-800rpm d) 1100-1200rpm

ans;- A

202. Optimum moisture content for crop for better threshing is

a) 12-15% b) 15-20% C) 20-30% D) 5-10%

In sprayers , operating pressures below _____Kpa are undesirable for hydraulic nozzles other than flooding type.

Ans:- 140

1. In a combine harvester the peripheral speed of the cylinder ranges between _____ m/min.

Ans:- 1200 to 1500

2. The average working speed of a hand operated chaff fitted with two knives is _____ rev/min.
Ans:- 35
3. The unit of filter medium resistance is _____.
Ans:- L^{-1}
4. An indigenous plough cuts a _____ furrow cross section.
5. Ans:- Trapezoidal
6. A paddy transplanter uses either root wash type seedlings or _____ seedlings.
Ans:- soil bearing

4.55) Porosity is the ratio of _____ to the _____.

4.56) Newton's law of gravitation can be expressed as $F = \frac{GMm}{r^2}$ where F is the force of gravitational attraction and the other variables are _____.

4.57) The _____ end of a disc harrow tends to penetrate more deeply than the _____ end.

4.58) The type of mould board that results in a greater degree of soil pulverization is known as _____.

4.59) The drillability of a granular fertilizer used in fertilizer drill is _____ proportional to the angle of repose of the fertilizer.

4.60) Tilt angle of a disc plough is normally adjusted in the range of _____ degree.

1. Soil strength is described by a _____?
2. _____ type furrow openers are suitable for trashy or relatively hard ground.
3. Coefficient of friction is the ratio of the tangential force to the _____ force between the contact surface of two bodies
4. Calculate the field efficiency of a 9 Tyne tiller with a row spacing of 20cms at 4kmph if the field coverage is 0.576ha/h _____
5. A 3 bottom trailed MB plough exerts a draft of 600kg while moving at 3kmph. Calculate area draft for an operating depth of 20cms if the bottom size is 40cms. The furrow shape is trapezoidal with a furrow width at the bottom of 10cms
6. Soil pulverization can be quantified using _____ of the ploughing soil
7. In order to have proper alignment, the outer end of the mower cutter bar is provided with a lead of about _____ mm per metre bar length.
8. The slippage in a properly designed V-belt drive should not exceed _____ to _____%.
9. The degree of soil pulverization by a mould board plough can be measured by _____ of soil.
10. The average working speed of a hand operated chaff cutter fitted with two knives is _____ rpm.
11. In a combine harvester, the peripheral speed of the cylinder ranges between _____ to _____ m/min.
12. Tilt angle of disc plough is normally adjusted in the range of _____ degree.

13. 1) Draft of a plough should not exceed _____ percent of draw bar pull.
14. 2) A pitman transmits _____ motion to a knife head.
15. 3) Land wheel fitted with a plough runs on the _____.
16. 4) During the operation of the cutter bar mower, the knife edges trace a _____ path in relation to the field surface.
17. 5) Cone index varies with _____.
18. 4.31. The main objective of puddling in a rice field is to create _____ surface below the soil to _____ the infiltration of water.
19. 4.32. In a wheat seed drill, a _____ type seed metering mechanism is provided.
20. 4.33. _____ separates the discs on a gang of a tandem disc harrow.
21. 4.34.A _____ machine is one in which the propelling power unit is an integral part of the implements
22. 4.35. Power to drive a metering mechanism of the tractor operated planter is taken from the _____.
23. 4.36. In a combine, the ratio of reel peripheral speed to forward speed under most conditions in upright crops should be _____ to _____.

4.3 The recommended spray volume in litres per hectare for high volume spraying is >500litres/ha

4.4 The recommended spray volume in litres per hectare for low volume spraying is 100 to 500 litre/ha

4.5 The recommended spray volume in litres per hectare for ultra volume spraying is <5litres/ha

4.6 The average HP developed by a human labour is 0.10 hp

4.7 The average HP developed by a pair of bullock is 1hp

4.8 The reaper harvests a cereal crop while a mower cuts the fodder crop

1.The ultra low volume sprayer's capacity varies between _____.

Ans:

2.Higher tractive efficiency occurs on a _____ field.

Ans:

3.The recommended spray volume in litre per hectare for high volume spraying is _____.

Ans:

4. The recommended spray volume in litre per hectare for low volume spraying is _____ .

Ans:

5. The recommended spray volume in litre per hectare for ultra volume spraying is _____ .

Ans:

6. The average HP developed by a human labour is _____ .

Ans:

4.19 A disc harrow is a _____ tillage implement while a disc plough is a _____ tillage implement.

4.20 A sharp flat disc or knife blade attached to a mould board plough to cut the trash and reduce the draft is known as _____.

4.21 The attachment used in mould board plough, to plough and cover the residue escaping coverage into bottom of furrow is known as _____.

4.22 Tilt and disc angle in a standard disk plough varies as _____ and _____.

4.23 The tilt angle in a vertical disc plough is _____.

4.24 By increasing tilt angle, depth of penetration _____.

4.25 By increasing disc angle, depth of penetration _____, whereas width of cut _____.

1. By increasing disk angle, depth penetration _____ but over width of cut _____

Ans. decreases, increases

2. vertical suction in mould board plough is _____ whereas horizontal suction is _____

Ans. 0.3 to 0.5 cm, 0.5 cm

3. Subsoiler is used at a depth of _____

Ans. 45 to 75 cm

4. Subsoiler consists of _____ corner point while chisel plough consists of _____

Ans. Single, number of standard

5. The dryland farming implement which is used for sowing on planting is known as

Ans. Ridger planter