I have read and understood the instructions given on page No. 1 and I promise to abide by the invigilation rules and regulations of the examination.

Signature of Candidate

(As signed in application)

Seal of Superintendent of Examination Centre

The candidate must ensure to use the BLUE or BLACK BALL POINT PEN only for all entries and for filling the bubbles in the OMR Answer Sheet.

Instructions for the Candidate:

1. Each question carries FOUR marks. No marks will be awarded for unattempted questions. There is no negative marking on wrong answer.
2. Instructions for the Candidate :

   Instructions for the Candidate :
   
   Instructions for the Candidate :
   
   Instructions for the Candidate :
   
   Instructions for the Candidate :
   
   Instructions for the Candidate :
   
   Instructions for the Candidate :
   
   Instructions for the Candidate :
   
   Instructions for the Candidate :
   
   Instructions for the Candidate :

   1. Use BLUE or BLACK BALL POINT PEN only for all entries and for filling the bubbles in the OMR Answer Sheet.
   2. Before opening the SECURITY SEAL of the question booklet, write your Name, Roll Number (in figures), OMR Answer-sheet Number in the space provided at the top of the Question Booklet. Non-compliance of these instructions would mean that the Answer Sheet cannot be evaluated leading the disqualification of the candidate.
   3. Each question carries FOUR marks. No marks will be awarded for unattempted questions. There is no negative marking on wrong answer.
   4. Use of calculator, log table, mobile phones, any electronic gadget and slide rule etc. is strictly prohibited.
   5. English version of questions paper is to be considered as authentic and final to resolve any ambiguity.
   6. Candidate will be allowed to leave the examination hall at the end of examination time period only.
   7. If a candidate is found in possession of books or any other printed or written material from which he/she might derive assistance, he/she is liable to be treated at disqualified. Similarly, if a candidate is found giving or obtaining (or attempting to give or obtain) assistance from any source, he/she is liable to be disqualified.
   8. English version of questions paper is to be considered as authentic and final to resolve any ambiguity.
   9. OMR sheet is placed within this paper and can be taken out from this paper but seal of paper must be opened only at the start of paper.

Instructions for the Candidate:

1. Use BLUE or BLACK BALL POINT PEN only for all entries and for filling the bubbles in the OMR Answer Sheet.
2. Before opening the SECURITY SEAL of the question booklet, write your Name, Roll Number (in figures), OMR Answer-sheet Number in the space provided at the top of the Question Booklet. Non-compliance of these instructions would mean that the Answer Sheet cannot be evaluated leading the disqualification of the candidate.
3. Each question carries FOUR marks. No marks will be awarded for unattempted questions. There is no negative marking on wrong answer.
4. Use of calculator, log table, mobile phones, any electronic gadget and slide rule etc. is strictly prohibited.
5. English version of questions paper is to be considered as authentic and final to resolve any ambiguity.
6. Candidate will be allowed to leave the examination hall at the end of examination time period only.
7. If a candidate is found in possession of books or any other printed or written material from which he/she might derive assistance, he/she is liable to be treated at disqualified. Similarly, if a candidate is found giving or obtaining (or attempting to give or obtain) assistance from any source, he/she is liable to be disqualified.
8. English version of questions paper is to be considered as authentic and final to resolve any ambiguity.
9. OMR sheet is placed within this paper and can be taken out from this paper but seal of paper must be opened only at the start of paper.
001. A person travelling on a straight line moves with a uniform velocity $V_1$ for a distance $x$ and with a uniform velocity $V_2$ for the next equal distance. The average velocity $V$ is given by:-

(A) $V = \sqrt{V_1 V_2}$

(B) $V = \frac{1}{2}(V_1 + V_2)$

(C) $\frac{2}{V} = \frac{1}{V_1} + \frac{1}{V_2}$

(D) $\frac{1}{V} = \frac{1}{V_1} + \frac{1}{V_2}$
002. A person standing on the floor of an elevator drops a coin. The coin reaches the floor of the elevator in a time $t_1$ if the elevator is stationary and in time $t_2$ if it is moving with uniform velocity. Then

(A) $t_1 = t_2$  
(B) $t_1 < t_2$  
(C) $t_1 > t_2$  
(D) none of these

003. A car has to move on a level turn of radius 45 m. If the coefficient of static friction between the tyre and road is $\mu_s = 2.0$, what is the maximum speed the car can take without skidding.

(A) 45 m/s  
(B) 30 m/s  
(C) 90 m/s  
(D) insufficient data

004. A coin placed on a rotating turn table just slips if it is placed at a distance of 4 cm from the centre. If the angular velocity of the turn table is doubled it will just slip at a distance of.

(A) 8 cm  
(B) 4 cm  
(C) 2 cm  
(D) 1 cm

005. Water in a bucket is whirled in a vertical place with a string attached to it. The water does not fall down even when the bucket is inverted at top. We conclude that in this position.

(A) $mg = \frac{mv^2}{r}$  
(B) $mg > \frac{mv^2}{r}$  
(C) $mg \leq \frac{mv^2}{r}$  
(D) none of these
006. If the acceleration due to gravity at the surface of the earth is \( g \), the work done in slowly lifting a body of mass \( m \) from the earth surface to a height \( R \) equal to the radius of the earth is

(A) \( mgR \)  (B) \( \frac{1}{4} mgR \)  
(C) \( \frac{1}{2} mgR \)  (D) \( 2 mgR \)

007. The escape velocity at the surface of the moon is approximately.

(A) 4 km/s  (B) 24 km/s  
(C) 2.4 km/s  (D) 4.2 km/s

008. A person sitting in a chair in a satellite feels weightless because–

(A) the person in the satellite is not attracted.  
(B) the normal force is zero.  
(C) the earth does not attract the objects in a satellite  
(D) the normal force by the chair on the person balances the earth attraction.

009. The quantities remaining constant in a collision are–

(A) momentum, kinetic energy and temperature  
(B) momentum, kinetic energy but not temperature.  
(C) momentum and temperature but not kinetic energy.  
(D) momentum but neither kinetic energy nor temperature.

006. यदि पृथ्वी की सतह पर गुरुत्वीय त्वरण का मान \( g \) हो तो \( m \) द्रव्यमान के एक विषय को धीरे-धीरे सतह से \( R \) दूरी उठाने में किया गया कार्य होगा

\( R = \text{पृथ्वी की त्रिज्या} \)

(A) \( mgR \)  (B) \( \frac{1}{4} mgR \)  
(C) \( \frac{1}{2} mgR \)  (D) \( 2 mgR \)

007. चन्द्रमा पर पताका वेग का मान होगा (लगभग)

(A) 4 km/s  (B) 24 km/s  
(C) 2.4 km/s  (D) 4.2 km/s

008. उपग्रह के अन्दर कुर्सी पर बैठा हुआ आदमी भारोत्तरता का अनुभव करता है क्योंकि

(A) उपग्रह के अन्दर बैठा हुआ आदमी आकर्षण नहीं अनुभव करता।  
(B) अभिलंब बल का मान शून्य है।  
(C) उपग्रह के अन्दर की बल्लों को पृथ्वी आकर्षित नहीं करती।  
(D) कुर्सी के द्वारा लगाया गया अभिलंब बल आदमी के वजन को संतुलित कर लेता है।

009. किसी टक्कर (Collision) में स्थिर होता है तो

(A) संबंध, गतिज उर्जा और तापमान  
(B) संबंध, गतिज उर्जा लेकिन तापमान नहीं  
(C) संबंध और तापमान लेकिन गतिज उर्जा नहीं  
(D) केवल संबंध, न तो गतिज उर्जा और न तापमान
010. In an inelastic collision
(A) the initial kinetic energy is equal to the final kinetic energy.
(B) the final kinetic energy is less than the initial kinetic energy.
(C) kinetic energy remains constant.
(D) the kinetic energy first increases and then decreases.

011. The work done by all the forces (internal and external) on a system equals the change in
(A) total energy
(B) kinetic energy
(C) potential energy
(D) none of these

012. One atmospheric pressure is equal to the
(A) $1.01 \times 10^5$ Pa
(B) $1.01 \times 10^7$ Pa
(C) $1.01 \times 10^{-5}$ Pa
(D) 10.01 Pa

013. The atmosphere of the earth is spread up to a height of about
(A) 20 km
(B) 100 km
(C) 200 km
(D) 2000 km

014. The specific heat of solids at high temperature is roughly equal to
(A) $R$  (B) $2R$
(C) $3R$  (D) $6R$

010. किसी अप्रत्याश्य टकर में-
(A) आरम्भिक गतिज उर्जा बराबर होती है अंतिम उर्जा के
(B) अंतिम गतिज उर्जा कम होती है आरम्भिक गतिज उर्जा से
(C) गतिज उर्जा स्थिर होती है।
(D) गतिज उर्जा पहले बढ़ती है फिर कम होती है।

011. किसी निकाय पर लगाये बल (आंतरिक और बाह्य) द्वारा किया गया कार्य होता है निम्न में परिवर्तन
(A) कुल ऊर्जा
(B) गतिज ऊर्जा
(C) स्थितिज ऊर्जा
(D) इनमें से कोई नहीं

012. एक वायुमंडलीय दब बराबर होता है
(A) $1.01 \times 10^5$ Pa
(B) $1.01 \times 10^7$ Pa
(C) $1.01 \times 10^{-5}$ Pa
(D) 10.01 Pa

013. पृथ्वी का वायुमंडल लगभग होता है
(A) 20 km की ऊंचाई तक
(B) 100 km की ऊंचाई तक
(C) 200 km की ऊंचाई तक
(D) 2000 km की ऊंचाई तक

014. अधिक ताप पर किसी ठोस की विशिष्ट ऊर्जा होती है- लगभग
(A) $R$  (B) $2R$
(C) $3R$  (D) $6R$
015. The molar specific heat of monoatomic ideal gas is equal to
(A) \( \frac{3}{2} R \)  
(B) \( \frac{1}{2} R \)  
(C) 3R  
(D) \( \frac{2}{3} R \)

016. As the temperature of a solid approaches absolute zero temperature then the specific heat
(A) approaches zero  
(B) increases  
(C) remains constant at 3R  
(D) none of these

017. The first law of thermodynamics is a statement of conservation of
(A) momentum  
(B) kinetic energy  
(C) potential energy  
(D) total energy

018. To remove the backlash - error, the screw should be rotated
(A) in the same direction always  
(B) in the opposite direction  
(C) first clockwise and then anticlockwise  
(D) first anticlockwise and then clockwise

019. Pitch of screw gauge is defined as
(A) linear distance travelled by screw in one half rotation.  
(B) linear distance travelled by the screw in one complete rotation.  
(C) linear distance travelled by the screw in two complete rotation.  
(D) none of these
020. Saturation vapour pressure of water at 100°C is roughly
(A) 100 torr  (B) 700 torr
(C) 760 torr  (D) 860 torr

021. The dew point is the temperature at which
(A) the saturation vapour pressure is equal to the present vapour pressure.
(B) the saturation vapour pressure doubles the present vapour pressure.
(C) the saturation vapour pressure is half of the present vapour pressure.
(D) none of these.

022. The specific heat capacity of ice roughly equal to
(A) 1.0 Cal/g–°C
(B) 2.0 Cal/g–°C
(C) 0.5 Cal/g–°C
(D) 0.05 Cal/g–°C

023. The thermal conductivity of a rod depends on
(A) length
(B) mass
(C) area of cross-section
(D) material of the rod

024. A body cools down from 65°C to 60°C in 5 minutes. It will cool down from 60°C to 55°C in
(A) 5 minutes
(B) less than 5 minutes
(C) more than 5 minutes
(D) can not be predicted
025. Newton’s law of cooling is special case of
(A) Wien’s displacement law
(B) Kirchoff’s law
(C) Stefan’s law
(D) Planck’s law

026. Ionic ratio of hydrogen and oxygen in water is
(A) 1:2   (B) 1:4
(C) 2:1   (D) 4:1

027. Which one of the following is chemical fertilizer?
(A) Urea
(B) Sodium Nitrate
(C) Ammonium Sulphate
(D) All of above

028. Formula of nitric acid is
(A) HNO₃   (B) NH₃
(C) H₂SO₄   (D) NO₂

029. Which one is not the allotrope of phosphorus.
(A) White Phosphorus
(B) Purple Phosphorus
(C) Red Phosphorus
(D) Blue Phosphorus

030. Ammonia gas is produced in laboratory from the following–
(A) NH₄NO₃
(B) NH₄Cl + Ca(OH)₂
(C) NH₄OH
(D) (NH₄)₂SO₄
031. Molecular formula of glucose is—
(A) C₆H₁₂O₆  (B) (C₆H₁₀O₅)ₙ
(C) C₁₂H₂₂O₁₁  (D) None of these

032. Which of the following ions will cause hardness of water sample?
(A) Ca²⁺    (B) Na⁺
(C) Cl⁻     (D) K⁺

033. Which one of the following is present as an active ingredient in bleaching powder for belching action?
(A) Ca₂OCl₂   (B) Ca(OCl)₂
(C) CaO₂Cl    (D) CaCl₂

034. The commercial name of colon is
(A) Ion exchange resins
(B) Sodium aluminum Sulphate
(C) Sodium hydrogen Sulphate
(D) Sodium hexa meta phosphate

035. Chlorine molecule is an example of
(A) Valency
(B) Electrovalency
(C) Co-ordinate valency
(D) Co-valency

036. Which one of the following is the strongest base?
(A) C₂H₆   (B) KOH
(C) CaSO₄   (D) Mg(OH)₂
037. Glycerol is.
(A) Monohydric alcohol
(B) Dihydric alcohol
(C) Trihydric alcohol
(D) Polyhydric alcohol

038. Value of Avogadro’s number is—
(A) $60.23 \times 10^{23}$
(B) $6.023 \times 10^{23}$
(C) $6023 \times 10^{23}$
(D) $602.3 \times 10^{23}$

039. Oxidation number of N in $\text{HNO}_3$
(A) +5
(B) −5
(C) −3
(D) +3

040. Which form of sulphur is produced by the volcano mountain.
(A) $\text{H}_2\text{S}$
(B) $\text{H}_2\text{SO}_4$
(C) $\text{CS}_2$
(D) $\text{SO}_2$

041. Bauxite is the ore of which metal.
(A) Ca
(B) Al
(C) Fe
(D) K

042. Acidic soil is called.
(A) More than 7 pH
(B) On 7 pH
(C) Less than 7 pH
(D) None of these

043. Formula of calcium carbonate is.
(A) $\text{CaHCO}_3$
(B) $\text{CaCl}_2$
(C) $\text{CaCO}_3$
(D) $\text{CaSO}_4$
044. Number of carbon atom in benzene ring is.
   (A) 4   (B) 5
   (C) 6   (D) 8

045. Baking soda is
   (A) NaHCO₃   (B) Na₂CO₃
   (C) NaOH   (D) none of these

046. Formula of urea is–
   (A) CO(NH₂)₂
   (B) (NH₄)₂CO₃
   (C) NH₂COONH₄
   (D) NH₃

047. Which is formed when carbon dioxide is dissolved in water
   (A) CO₂   (B) CO₃
   (C) H₂CO₃   (D) Na₂CO₃

048. The highest saponification value is.
   (A) Coconut oil
   (B) Castor oil
   (C) Linseed oil
   (D) Cotton oil

049. What is used for the preparation of gun powder.
   (A) KCl   (B) KNO₃
   (C) NaCO₃   (D) NaCl

050. Water reaction on calcium carbide produces.
   (A) Ammonia   (B) Acetylene
   (C) Ethylene   (D) None of these
051. Sugarcane breeding institute is situated at
(A) Mumbai (B) Delhi
(C) Lucknow (D) Coimbatore

052. The cell wall is made up of –
(A) fat (B) amino acid
(C) protein (D) cellulose

053. Potato is a modified –
(A) root (B) stem
(C) leaf (D) flower

054. TPS is related to –
(A) onion (B) potato
(C) garlic (D) tomato

055. Hill reaction is a part of –
(A) respiration
(B) cell division
(C) photosynthesis
(D) none of these

056. In photosynthesis, oxygen comes from –
(A) carbon dioxide
(B) water
(C) both carbon dioxide and water
(D) none of these

057. The plants whose morphological characters are same are called as –
(A) morphology (B) physiology
(C) mimicry (D) none of these
058. Mushroom is a form of –
- (A) Fungus
- (B) Bacteria
- (C) Virus
- (D) none of these

059. The power house of cell is –
- (A) protoplasm
- (B) ribosome
- (C) mitochondria
- (D) nucleoplasm

060. In cell division, crossing over occurs at–
- (A) pachytene stage
- (B) zygotene stage
- (C) leptotene stage
- (D) diplotene stage

061. The meiotic cell division occurs in –
- (A) body cells
- (B) sperm cells
- (C) ova cells
- (D) both sperm and ova cells

062. The dark reaction is associated with –
- (A) cell division
- (B) transpiration
- (C) photosynthesis
- (D) respiration

063. The term gynophores is related to crop –
- (A) gram
- (B) groundnut
- (C) rice
- (D) cotton

064. The term curing is related to –
- (A) tobacco
- (B) groundnut
- (C) rice
- (D) cotton
065. In protein synthesis, DNA to RNA is formed by process –
   (A) transcription
   (B) translation
   (C) both transcription and translation
   (D) none of these

066. The algal bloom is related to –
   (A) decrease of BOD
   (B) presence of nitrogen fertilizers in water bodies
   (C) excessive algae growth
   (D) all the options

067. Global warming is related to
   (A) oxygen
   (B) nitrogen
   (C) carbon dioxide
   (D) water vapours

068. Ozone protect us from –
   (A) X rays
   (B) microwaves
   (C) UV rays
   (D) gamma rays

069. The maize protein is called –
   (A) leucine     (B) tryptophan
   (C) lysine      (D) Zein

070. The green colour of plants is due to
   (A) xanthophyll (B) lycopene
   (C) chlorophyll (D) carotene
071. Which irrigation method has maximum water use efficiency (WUE).
(A) flood irrigation
(B) drip irrigation
(C) sprinkler irrigation
(D) check basin method

072. What is common irrigation source in Uttar Pradesh
(A) tubewell or borewell
(B) canal
(C) guls
(D) none of these

073. Oryza sativa is the scientific name of –
(A) lentil (B) rice
(C) bajra (D) potato

074. The chromosome no. of wheat is
(A) 2n = 24 (B) 2n = 42
(C) 2n = 20 (D) 2n = 40

075. The most commonly used Nitrogen source of fertilizer is –
(A) Ammonium nitrate
(B) Diammonium phosphate
(C) Urea
(D) none of these

076. The king of fruit is –
(A) watermelon (B) banana
(C) litchi (D) mango
077. The vertical section of soil is called as—
(A) soil structure
(B) soil texture
(C) soil profile
(D) Both soil structure and soil texture

078. Read the statements and answer the questions accordingly
(1) Barren soil is eroded more than grass covered soil
(2) Grasses interrupt with splash erosion of soil
(A) statement (2) is correct explanation of statement (1)
(B) Both (1) and (2) are wrong
(C) Statement (1) is correct but statement (2) is wrong
(D) None of these

079. The common ratio of N:P:K for field crops is –
(A) 1:2:4    (B) 4:2:2
(C) 1:2:3    (D) 4:2:1

080. The kisan khad is –
(A) CAN (Calcium ammonium nitrate)
(B) Urea
(C) DAP
(D) SSP

081. The best method of irrigation in fruit crops is –
(A) drip irrigation
(B) basin method
(C) check basin method
(D) none of these
<table>
<thead>
<tr>
<th>Question</th>
<th>Choice A</th>
<th>Choice B</th>
<th>Choice C</th>
<th>Choice D</th>
</tr>
</thead>
<tbody>
<tr>
<td>082. Khaira disease is a common disease of –</td>
<td>(A) Wheat</td>
<td>(B) Rice</td>
<td>(C) Maize</td>
<td>(D) Potato</td>
</tr>
<tr>
<td>083. “Jethro Tull” is the father of –</td>
<td>(A) Weeds</td>
<td>(B) Soil</td>
<td>(C) Drip irrigation</td>
<td>(D) TPS</td>
</tr>
<tr>
<td>084. The source of organic fertilizer is</td>
<td>(A) urea</td>
<td>(B) cowdung</td>
<td>(C) vermi compost</td>
<td>(D) DAP</td>
</tr>
<tr>
<td>085. The source of organic manure is –</td>
<td>(A) urea</td>
<td>(B) cowdung</td>
<td>(C) SSP</td>
<td>(D) DAP</td>
</tr>
<tr>
<td>086. The hormone require for ripening of fruits –</td>
<td>(A) Ethylene</td>
<td>(B) GA</td>
<td>(C) ABA</td>
<td>(D) NAA</td>
</tr>
<tr>
<td>087. The Kharif season starts from –</td>
<td>(A) June/July</td>
<td>(B) October/November</td>
<td>(C) February/March</td>
<td>(D) None of these</td>
</tr>
</tbody>
</table>
088. The first Agriculture university of India—
(A) Chandra Shekhar Azad University of Agriculture and Technology
(B) Banaras Hindu University
(C) Sardar Vallabh Bhai Patel University of Agriculture and Technology
(D) G.B. Pant University of Agriculture and Technology

089. The father of green revolution –
(A) Jethro Tull
(B) M. S. Swaminathan
(C) Peter de Cresenzi
(D) None of these

090. The permanent wilt point of common field crops is –
(A) 0 bar (B) – 0.33 bar
(C) – 15 bar (D) – 48 bar

091. Onion and garlic is the example of –
(A) Biennial crop
(B) Annual crop
(C) Perennial crop
(D) None of these

092. The mimicry weed of rice is –
(A) Chenopodium album
(B) Celosia argentia
(C) Echinochloa crusgalli
(D) Phalaris minor

093. The dominancy of iron and aluminium is more at –
(A) basic pH (B) neutral pH
(C) acidic pH (D) both (A) and (B)
094. The hormone responsible for detachment of fruits and leaves from plant is –
   (A) ABA      (B) GA
   (C) NAA      (D) Ethylene

095. The word SRI stands for –
   (A) Sub regional institute
   (B) State rice institute
   (C) State research institute
   (D) System of Rice intensification

096. The grain sugar is called as –
   (A) sucrose     (B) galactose
   (C) maltose     (D) lactose

097. The flower of sugarcane is called as –
   (A) flower      (B) siliqua
   (C) tassel      (D) arrow

098. The plants which produces flowers, fruits and seeds at less than or equal to 9 hours day light are called as –
   (A) short day plants
   (B) long day plants
   (C) day neutral plants
   (D) none of these

099. Jack fruit is a –
   (A) vegetable  (B) fruit
   (C) grass      (D) none of these

100. The pulse which does not do nitrogen fixation is –
    (A) lobia      (B) gram
    (C) arhar     (D) Rajma
101. The body of indigenous plough is used to attach.
   (A) Handle
   (B) Beam
   (C) Shoe and share
   (D) All of the above

102. The depth of indigenous plough is adjusted by –
   (A) Changing the rope length
   (B) Changing the point of hitch (Clevis) on beam
   (C) Lowing or raising axis of shoe with respect to the body
   (D) All of the above

103. Plough bottom of mould board plow consist of
   (A) Mould Board (B) Share
   (C) Land side (D) All of the above

104. Share, land side and mould board are attached with.
   (A) Frog (B) Body
   (C) Beam (D) Gunnel

105. Main function of mould board plow in.
   (A) Pulverise soil
   (B) To cut, lift and turn the soil
   (C) Both (A) and (B)
   (D) None of the above

101. देशी हल की बाड़ी से निम्न भाग से जुड़े होते हैं।
   (A) मुदिया
   (B) हरिस
   (C) सू और फाल
   (D) उपरोक्त सभी

102. देशी हल की गहराई को कम या ज्यादा किया जाता है।
   (A) रस्सी की लम्बाई कम या ज्यादा करके
   (B) हरिस पर क्लेविस के छिद्र के बदलने से
   (C) शू के एक्सीस को बाड़ी से नीचे या ऊंचा करके
   (D) उपरोक्त सभी

103. मोल्ड बोर्ड हल के प्लाउ बाटम से निम्न भाग जुड़े होते हैं।
   (A) मोल्ड बोर्ड (B) फाल
   (C) लैंड साइड (D) उपरोक्त सभी

104. फाल लैंड साइड और मोल्ड बोर्ड जुड़े होते हैं।
   (A) फ्रोंग से (B) बाड़ी से
   (C) हरिस से (D) गनेल से

105. मिट्टी पलटने बाले हल का मुख्य कार्य है।
   (A) मिट्टी भुसभुरी करना
   (B) मिट्टी काटना, उठाना और मिट्टी पलटना
   (C) दोनों (A) और (B)
   (D) उपरोक्त में नहीं
106. Standard disc plow is used for deep plowing in the range of.
(A) 15-20 cm  (B) 20-25 cm
(C) 25-30 cm  (D) 30-50 cm

107. Which one is part of mould board plow share.
(A) Wing of share  (B) Cleavage edge
(C) Gunnel  (D) All of the above

108. The objective of conventional tillage are to –
(A) Reduce soil erosion  (B) Increase water holding capacity of soil
(C) Add more humus to soil  (D) All of the above

109. Which one of the following is secondary tillage equipment.
(A) Sub-soiler  (B) Cultivator
(C) Chirsel plow  (D) None of the above

110. Which of the following is used for pulverizing / reducing the clod size
(A) Disc harrow  (B) Planker
(C) Clod crusher  (D) All of the above
111. Mould board share is made of
(A) Cast iron
(B) Pig iron
(C) Chilled cast iron
(D) None of the above

112. In sticky soil the mould board used is.
(A) Breaker type
(B) Slat type
(C) Stubble type
(D) General purpose type

113. Type of rolling coulters are.
(A) Smooth edge type
(B) Notched edge type
(C) Fluted edge type
(D) All of the above

114. One hectare area is equal to
(A) 1000 m$^2$
(B) 10,000 m$^2$
(C) 100,000 m$^2$
(D) None of the above

115. Area covered by a plow in one hour is equal in m$^2$
(A) Width of cut by plow in meter per hour
(B) Speed of plow in meter per hour
(C) Width of cut in m × speed of plow in m per hour
(D) Width of cut of plow in cm × speed of plow in km per hour.
116. Tractor operated plow cutting width is 1 m and operating speed is 4.5 km per hour. Area will be covered in 8 hours (if efficiency is 100%) will be
(A) 2.6 hectare  (B) 3.0 hectare  
(C) 3.6 hectare  (D) 4.6 hectare

117. Tractor plow width is 60 cm and depth is 20 cm. Total draft of the implement is 4800 kg. The unit draft will be.
(A) 4 kg/cm²  (B) 5 kg/cm²  
(C) 6 kg/cm²  (D) 3 kg/cm²

118. The implement choking between discs.
(A) Speed of tractor is too low  
(B) Scrapers are not set correctly  
(C) Gangs are not rolling freely  
(D) All of the above

119. Rotary puddlers are used in rice cultivation due to.
(A) Better pulverization  
(B) Better puddling  
(C) Reduced draft  
(D) All of the above
120. Cleaning of grain is unsatisfactory because.
   (A) Fan speed is less
   (B) Air guide blade not working properly
   (C) Radial blower blade not proper
   (D) All of the above

121. The disks of disk harrows are made of.
   (A) Cast iron
   (B) Spring steel
   (C) High-grade heat treated steel
   (D) None of the above

122. The depth of penetration of a disk harrow is increased by.
   (A) Increasing the spacing of disk
   (B) Decreasing the spacing of disks
   (C) Decreasing the cut of harrow
   (D) None of the above

123. The working depth of animal drawn spike tooth harrow is.
   (A) 5 cm
   (B) 10 cm
   (C) 15 cm
   (D) None of the above

124. In general the length of wooden plank drawn by a pair of bullock is
   (A) 80-90 cm  (B) 100-120 cm
   (C) 150-200 cm  (D) 200-250 cm
125. If the size of tractor or drawn drill is 11 × 20 cm then its nominal width will be.
   (A) 180 cm
   (B) 2.2 m
   (C) 220 mm
   (D) 209 cm

126. The auger type metering device is used in.
   (A) Fertilizer drill
   (B) Seed drills
   (C) Planters
   (D) All of these

127. A fan type nozzle sprays the liquid in the form of a.
   (A) Solid cone
   (B) Hollow cone
   (C) Flat sheet
   (D) Flooding

128. The uniformity of coverage in chemical spraying is determined by.
   (A) Type of nozzle
   (B) Nozzle spacing
   (C) Boom height
   (D) All of these

129. Depreciation of machine is determined by.
   (A) Estimated value method
   (B) Straight line method
   (C) Sum of digits method
   (D) All of the above
130. Fixed cost of a tractor includes.
   (A) Depreciation
   (B) Insurance and taxes
   (C) Shelter change
   (D) All of the above

131. Variable cost of tractor includes.
   (A) Cost of fuel consumed
   (B) Cost of repair and maintenance
   (C) Cost to words Labor charge
   (D) All of the above

132. In general the useful life of tractor in India is considered.
   (A) 8000 hrs  (B) 8500 hrs
   (C) 10,000 hrs  (D) 12,000 hrs

133. Which one pump is used to pump water at higher height.
   (A) Single stage pump
   (B) Multi stage pump
   (C) Horizontal axis pump
   (D) All of the above

134. Open impeller pump is used to.
   (A) Pump clean water
   (B) Pump water at higher height
   (C) Pump sewage water
   (D) None of the above
135. Deep well turbine pump is used to lift water from.
(A) 10 ft water level
(B) 15 ft water level
(C) More than 20 ft water level
(D) All of the above

136. The height of water over 90° v noted is 4 cm. The discharge will be
(A) 0.22 l/sec  (B) 0.35 l/sec
(C) 0.40 l/sec  (D) 0.44 l/sec

137. The width of square channel is 20 cm and the height of flowing water is 15 c.m. The velocity of flowing water in channel is 2 meter/sec the discharge will be.
(A) 0.06 m³/sec  (B) 0.07 m³/sec
(C) 0.08 m³/sec  (D) 0.05 m³/sec

138. A pump is pumping water in a tank at a height of 12.2 meter Pump is pumping 4500 liter water per minute. The friction loss in pipe is equal to 4.57 meter, suction lift is 3.05 meter. The pump out put in h.p. will.
(A) 20.82 h.p  (B) 19.82 h.p
(C) 21.82 h.p  (D) 22.82 h.p
139. The mean deviation about the median for the following data will be
3, 9, 5, 3, 12, 10, 18, 4, 7, 19, 21
(A) 4.57  (B) 5.27
(C) 6.27  (D) 7.27

140. The following data is given for continuous frequency distribution.
Class – 30-40, 40-50, 50-60, 60-70, 70-80, 80-90, 90-100
Frequency – 3, 7, 12, 15, 8, 3, 2
The mean will be
(A) 72  (B) 52
(C) 62  (D) 82

141. The variance of Q. No. 140 will be
(A) 201  (B) 101
(C) 301  (D) 401

142. The standard deviation of Q. No. 140 will be.
(A) 16.18  (B) 17.18
(C) 14.18  (D) 13.18

143. The standard deviation of the binomial distribution is.
(A) NP
(B) npq
(C) \( \sqrt{npq} \)
(D) None of the above
144. The coefficient of variation is given.
(A) $\frac{\sigma}{\bar{x}} \times 100$
(B) $\frac{\sigma^2}{\bar{x}} \times 100$
(C) $\frac{\sigma}{m} \times 100$
(D) None of the above

145. Measure of dispersion is.
(A) Range
(B) Mean deviation
(C) Standard deviation
(D) All of the above

146. In a two way classification number of treatments are 5 and replication are 5 then degrees of freedom for residuals (Error) will be.
(A) 16  (B) 24
(C) 4    (D) 5

147. In a class the mean height, weight and variance are given below, Which one show greater variation.

<table>
<thead>
<tr>
<th></th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Man</td>
<td>162.6 cm</td>
<td>52.36 kg</td>
</tr>
<tr>
<td>Variance</td>
<td>127.69 cm²</td>
<td>23.14 kg²</td>
</tr>
</tbody>
</table>

(A) Height
(B) Weight
(C) Both equal
(D) None of the above

144. कोफिसिएंट आफ वैरिएंस होता है।
(A) $\frac{\sigma}{\bar{x}} \times 100$
(B) $\frac{\sigma^2}{\bar{x}} \times 100$
(C) $\frac{\sigma}{m} \times 100$
(D) उपरोक्त में से कोई नही।

145. प्रकीर्णिण (मीजर आफ डिस्परसैन) का मापन है।
(A) परास
(B) माध्य विचलन
(C) मानक विचलन
(D) उपरोक्त सभी

146. यदि दू वेकलसिफिकेशन में 5 व्लक और 5 उपचार है तो रेसिड्यूल बुटी की डिग्री आफ फ्रीडम क्या होगी।
(A) 16  (B) 24
(C) 4    (D) 5

147. एक क्लास में लड़कों की ऊँचाई वजन और उसका वैरिएंस दिया गया है। उनमें से किसमें ज्यादा वैरिएंस है।

<table>
<thead>
<tr>
<th></th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Man</td>
<td>162.6 cm</td>
<td>52.36 kg</td>
</tr>
<tr>
<td>Variance</td>
<td>127.69 cm²</td>
<td>23.14 kg²</td>
</tr>
</tbody>
</table>

(A) ऊँचाई
(B) वजन
(C) दोनों बराबर
(D) उपरोक्त में से कोई नही।
148. The average speed of a fly wheel of a manually operated chaff cutter with 2 knives will be.
   (A) 35 rpm   (B) 33 rpm   (C) 30 rpm   (D) 28 rpm

149. The length of fodder can be varied by.
   (A) Changing speed of cutting head
   (B) Changing number of knives
   (C) Changing the speed of feed roller
   (D) All of the above

150. The power operated chaff cutter has fly wheel speed in the range of.
   (A) 250-300 rpm (B) 300-350 rpm (C) 350-700 rpm (D) 600-1000 rpm