IBPS SO AGRICULTURAL FIELD OFFICER (SCALE I)
MAINS YEAR: 2018

Q1. Highest yielding crop in the year 2015-16?
(a) Rice
(b) Wheat
(c) Soyabean
(d) Gram
(e) None of these

Q2. Highest area of crop in the year 2015-16?
(a) Rice
(b) gram
(c) Wheat
(d) Soybean
(e) None of the above

Q3. Which of the following is a temperate crop based on climate?
(a) Wheat
(b) Oat
(c) Lentil
(d) Pigeon pea
(e) None of these

Q4. Totapuri is a variety of mango grown in which state?
(a) U.P.
(b) Telangana
(c) Tamil Nadu
(d) Karnataka
(e) Madhya Pradesh

Q5. Ratna variety of mango crossed between?
(a) Sindhu × Alfanso
(b) Neelam × Alfonso
(c) Dasheri × Alfanso
(d) Dasheri × Neelam
(e) Dasheri × Malbhog

Q6. Rainfall in humid area?
(a) >500mm
(b) <1000mm
(c) <500mm

(d) >1000 mm
(e) <1500mm

Q7. What is the capacity of high-volume sprayer in l/ha?
(a) >150
(b) >10
(c) >50
(d) >100
(e) None of these

Q8. What is the efficiency of drip irrigation?
(a) 65%
(b) 95%
(c) 75%
(d) 85%
(e) 100%

Q9. Highest Calcium present in which manure?
(a) Cow
(b) Poultry
(c) Human
(d) Earthworm
(e) None of these

Q10. Integrated scheme for agriculture marketing was introduced in which year? (a) 2014
(b) 2012
(c) 2013
(d) 2018
(e) 2019

Q11. Karan fries was developed by which institute?
(a) IVRI
(b) IARI
(c) ICAR
(d) NDRI
(e) None of these

Q12. Highest SNF in which animal milk?
(a) Cow
(b) Goat
(c) Swine
(d) Buffalo
(e) None of these

Q13. Which of the following is a micro-nutrient?
(a) Iron
(b) Nitrogen
(c) Manganese
(d) All of the above
(e) None of the above

Q14. Central Avian Research Institute was established in the year?
(a) 1984
(b) 1955
(c) 1979
(d) 1999
(e) 1998

Q15. Growing crop along with perennial has known as?
(a) Mixed farming
(b) Alley cropping
(c) Ley cropping
(d) Intercropping
(e) None of these

Q16. Under the Pradhan Mantri Fasal Bima Yojana the premium interest % paid by farmer for commercial and horticulture crop?
(a) 4%
(b) 5%
(c) 8%
(d) 6%
(e) 9%

Q17. Under Pradhan Mantri fasal Bima Yojana the premium interest % paid by farmer for kharif crops? (a) 2%
(b) 9%
(c) 6%
(d) 8%
(e) 10%

Q18. Under Pradhan Mantri Krishi sinchai Yojana what amount allocated for the period 2015-16 to 201920?
(a) 500cr.
(b) 3000cr.
(c) 10000cr.
(d) 50000cr.
(e) 15000cr.

Q19. What is the interest rate given to farmers who taken a loan of 3 lakh if the farmer has repaid the loan on time? (a) 4%
(b) 5%
(c) 6%
(d) 7%
(e) 8%

Q20. Which of the following is highly salt tolerant crop?
(a) Jute
(b) Wheat
(c) Soyabean
(d) Cotton
(e) None of these

Q21. Which of the following is highly salt degraded state?
(a) M.P.
(b) Gujarat
(c) UP
(d) Haryana
(e) Rajasthan

Q22. Power Tiller introduced in India in which year?
(a) 1960
(b) 1966
(c) 1963
(d) 1977
(e) 1978

Q23. When was papaya introduced in India?
(a) 16th century
(b) 17th century
(c) 18th century
(d) 19th century
(e) None of these

Q24. What should be the percent of geographical area cover under forest according to National Forest policy 1988?
(a) 33%
(b) 44%
(c) 55%
(d) 66%
(e) 77%

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Q25. On which operation on the following no plant is left undisturbed?
(a) Deep tillage
(b) Clean tillage
(c) Subsoiling
(d) Year-round tillage
(e) None of the above

Q26. Relative humidity suitable for crop production?
(a) 30-40%
(b) 20-30%

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(c) 10-20%
(d) 40-60%
(e) None of the above

Q27. Which of the following institute has developed 1st Rinderpest vaccine? (a) IVRI
(b) IARI
(c) ICAR
(d) NDRI
(e) None of these

Q28. Which of the following Institute discovered Ranikhet disease?
(a) IVRI
(b) NDRI
(c) IARI
(d) ICAR
(e) None of these

Q29. What is the pH alkaline soil?
(a) 7
(b) <7
(c) >8.2
(d) >9.2
(e) None of these

Q30. Electrical conductivity of saline-alkaline soil?
(a) >4dsm
(b) >2dsm
(c) 1dsm
(d) <1dsm
(e) None of these

Q31. Which equipment has lowest width?
(a) Disc plough (b) Rotavator
(c) M.B. plough
(d) Harrow
(e) None of these

Q32. Which of the following Nutrient effects in the plant being colorless lent of unfolded leaves at the top leaving gelatinous material?
(a) Iron
(b) Zinc
(c) Copper
(e)

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(d) Calcium (Ca)
None of these

Q33. Lime requirement in aquaculture at pH 5.1 to 6.5?
(a) 500kg
(b) 1000 kg
(c) 100kg
(d) 700kg
(e) None of these

Q34. What is the following wood is making for plywood timber? (a) Teak
(b) Babool
(c) Eucalyptus
(d) Sandle wood
(e) None of these

Q35. Which nutrient helps in the formation of chlorophyll? (a) Zinc
(b) Iron
(c) Magnese
(d) Magnesium
(e) None of these

Q36. Highest P2O5 consumption in which crop?
(a) Sorghum
(b) Soyabean
(c) Wheat
(d) Maize
(e) Groundnut

Q37. How much % of Rice Bran is used in fish feed?
(a) 32%
(b) 42%
(c) 60%
(d) 47%
(e) 45%

Q38. In murrah Buffalo what is the age at first calving?
(a) 24 months
(b) 30-34 months
(c) 48-50 months
(d) 40-42 months
(e) 36-38 months

Q39. It is essential to provide shelter and feed to the new born calf. What is daily weight gain of well fed?
(a) 250gm
(b) 325gm
(c) 400gm
(d) 500gm
600gm

Q40. While feeding the calf in early age the weight increases by how much? (a)
0.4-0.5 kg
(b) 0.5-0.6 kg
(c) 0.7-0.8 kg
(d) 0.3-0.5 kg
(e) None of these

Q41. Which of the following is an antigenic perennial crop?
(a) Gram
(b) Wheat
(c) Maize
(d) Soyabean
(e) Sugar beet

Q42. What is the H.P. power required for power sprayer?
(a) 1H.P.
(b) 8-10H.P.
(c) 3-5 H.P.
(d) 10-12H.P.
(e) 14-16H.P.

Q43. Which tillage implement requires minimum draft per unit width?
(a) Harrow
(b) Planter
(c) Plough
(d) Rotavator
(e) All of these

Q44. For cultivating land of around 40 hac for monocropping what H.P. tractor is preferred? (a)
20H.P.
(b) 15H.P. (c)
25H.P.
(d) 35H.P.
(e) 30H.P.

Q45. Which is the following is not a Quality of "4-stroke engine"?
(a) Fuel is not fully consumed
(b) Fuel consumption alters

(c) Fuel is fully consumed
(d) None of these
(e) All of these

Q46. What is power extracted by PTO?

90-100
30-40
70-80
50-60
60-70

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Q47. Which of the following boat is used for sailing in Mahanadi-chikla Lake? (a) Jano
(b) Dian
(c) Uthapani
(d) Bahani, Jano, Uthapani, Dian
(e) None of these

Q48. Area covered under Shrimp cultivation in India?
(a) 9lakh hac
(b) 8lakh hac
(c) 5lakh hac
(d) 13lakh hac
(e) 11.51 lakh hac

Q49. What time of period of heat in cow?
(a) 18 hours
(b) 24hours
(c) 30hours
(d) 36hours
(e) 40hours

Q50. What is the ESP of saline-alkaline soils?
(a) 15
(b) < 8.5
(c) < 15
(d) > 15
(e) > 8.5

Q51. What is the floor space required for "Broiler Poultry (sq. ft.)"? (a) 1sq. ft.
(b) 3sq. ft. (c) 5sq. ft.
(d) 7sq. ft.
(e) 2sq. ft.

Q52. Which poultry breed maximum weight in the fifth week of the rearing period? (a) Aseel
(b) Brahma
(c) Leghorn
(d) Ghagsus
(e) Punjab, Brown

Q53. What is the floor space required for pregnant cow?
50-80sq.ft

100-120 Sq. ft.
200sq.ft.
150-180sq.ft.
130-150sq.ft.

Q54. Which Fish has the highest protein content?
(a) Goldfish
(b) Mollies
(c) Guppies
(d) Neon Tetras
(e) Tuna (bluefin and yellowfin)

Q55. In Banana, Which nutrient is given in largest amount through fertigation? (a) Sulphur
(b) Nitrogen
(c) Phosphorus
(d) Zinc
(e) Potash

Q56. What are the optimum pH required for Banana?
(a) 7
(b) 5.5-6.5 (c) 7-8.5
(d) 8.5-9.5
(e) 3.5-4.5

Q57. What are the optimum pH required for Guava?
(a) 7
(b) 7 – 8.5
(c) 8.5 – 9.5
(d) 6.5 – 8.2
(e) 3.5 – 4.5

Q58. What are the optimum pH required for Grapes?
(a) 7
(b) 7-8.5
(c) 8.5-9.5
(d) 3.5-4.5
(e) 5.5-6.5

Q59. In which form of cutting all branches of fodder crops cut?
(a) Pruning
(b) Training
(c) Lopping
(d) Pollarding
(e) All of these

Q60. Which nutrient plays a activist & Catalystic role in the photosynthesis of plants?

Zinc Copper

Nickle Aluminum

Magnesium

Solutions

S1. Ans.(a)

Sol. Highest yielding crop in the year 2015-16 is Rice.

S2. Ans.(a)

Sol. The highest area is covered by rice in the year 2015-16.

S3. Ans.(a)

Sol. Wheat is considered a temperate crop based on climate. Temperate crops thrive in moderate temperature conditions, typically in regions with distinct seasons. Wheat is well-suited to temperate climates, requiring cool temperatures during the growing season and a period of winter chill for proper development. In contrast, crops like oats, lentils, and pigeon peas may be better adapted to different climate zones, such as cooler or warmer environments.

S4. Ans.(d)

Sol. Totapuri is a variety of mango predominantly grown in the state of Karnataka, India. Known for its distinct elongated shape and tangy taste, Totapuri mangoes are widely cultivated in Karnataka and are used in various culinary applications, including the preparation of pickles, chutneys, and beverages.

S5. Ans.(b)

Sol. The Ratna variety of mango is a result of the cross between Neelam and Alphonso mango varieties. Therefore, option (b) Neelam × Alphonso is the correct answer. This cross-breeding aims to combine desirable traits from both parent varieties, such as taste, aroma, and texture, to create a mango variety with unique characteristics.

S6. Ans.(d)

Sol. Humid areas typically experience high levels of rainfall, and a yearly precipitation exceeding 1000 mm is common in such regions. This abundant rainfall contributes to the overall humidity and supports lush vegetation in humid climates. Therefore, (d) >1000 mm accurately reflects the characteristic precipitation levels of humid areas.

S7. Ans.(a)

Sol. The capacity of a high-volume sprayer is more than 150 l/ha.

S8. Ans.(b)

Sol. The efficiency of drip irrigation is typically around 95%. Drip irrigation delivers water directly to the roots of plants, minimizing water wastage through evaporation or runoff. This targeted and controlled approach enhances water-use efficiency, making option (b) 95% the correct choice.

S9. Ans.(b)

Sol. Poultry manure contains the highest calcium among the options provided. Calcium content in manure is crucial for plant growth and development. Poultry manure is known for its rich nutrient composition, including higher levels of calcium compared to other manures such as cow, human, and earthworm.

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S10. Ans.(a)
Sol. The integrated scheme for agriculture marketing, known as the "National Agriculture Market" (NAM), was introduced in the year 2014. The primary objective of NAM is to create a unified national market for agricultural commodities by integrating various APMC (Agricultural Produce Market Committee) markets across the country.

S11. Ans.(d)
Sol. Karan Fries, a crossbreed of Holstein Friesian and Tharparkar cattle, was developed by the National Dairy Research Institute (NDRI).

S12. Ans.(d)
Sol. Buffalo milk had the highest SNF, calcium, magnesium, and phosphorous content, which was followed by goat milk and lowest in cow milk.

S13. Ans.(a)
Sol. Iron is a micronutrient, which means it is required by plants in smaller quantities compared to macronutrients like nitrogen. Micronutrients are essential elements that play crucial roles in plant growth and development.

S14. Ans.(c)
Sol. The Central Avian Research Institute (CARI) was established in the year 1979. It is a premier research institute in India dedicated to poultry research and development. CARI focuses on the advancement of technology and scientific knowledge related to poultry farming, genetics, nutrition, and disease control, contributing significantly to the growth and improvement of the poultry industry in the country.

S15. Ans.(b)
Sol. Alley cropping involves growing crops between rows of perennial plants, such as trees or shrubs.

S16. Ans.(b)
Sol. Under the Pradhan Mantri Fasal Bima Yojana (PMFBY), the premium interest paid by farmers for commercial and horticulture crops is 5%. This means that farmers are required to contribute 5% of the total premium amount, with the remaining portion subsidized by the government. This initiative aims to provide affordable crop insurance to farmers, mitigating their financial risks in case of crop failure due to various factors such as natural calamities or pests.

S17. Ans.(a)
Sol. Under the Pradhan Mantri Fasal Bima Yojana (PMFBY) in India, farmers are required to pay a premium for insuring their kharif crops. For kharif crops, the premium paid by the farmer is 2%.

S18. Ans.(d)
Sol. Under the Pradhan Mantri Krishi Sinchai Yojana (PMKSY), the allocated amount for the period 201516 to 2019-20 was Rs. 50,000 crore.

S19. Ans.(a)
Sol. The interest rate given to farmers who have taken a loan of 3 lakh and repaid it on time is 4%. This implies that if the farmer adheres to the scheduled repayment, they are entitled to a 4% interest rate on the loan.

S20. Ans.(d)
Sol. Cotton plants have the ability to withstand high salinity levels in the soil, making them suitable for cultivation in areas with saline conditions. This adaptability allows cotton to thrive in regions where other crops may struggle due to elevated salt content in the soil.

S21. Ans.(b)
Sol. The highly salt-degraded state among the options is Gujarat (option b). Salt degradation in soil refers to the accumulation of salts, which can adversely affect soil fertility and crop growth. Gujarat is known for its arid and semi-arid regions, where water scarcity and improper irrigation practices can lead to the accumulation of salts in the soil, contributing to a highly salt-degraded state.

S22. Ans.(c)
Sol. The Power Tiller was introduced in India in the year 1963.

S23. Ans.(a)
Sol. Papaya was introduced in India in the 16th century. The answer (a) indicates that the introduction of papaya to India occurred during this period. The cultivation and spread of papaya in the country can be traced back to historical trade and exploration activities, bringing this tropical fruit to the Indian subcontinent during the 16th century.

S24. Ans.(a)
Sol. The National Forest Policy of 1988 in many countries, including India, aims to maintain 33% of the total geographical area under forest cover.

S25. Ans.(b)
Sol. In clean tillage, the soil is thoroughly cultivated, and all plant residues and weeds are completely removed. This operation disrupts the existing plant material and vegetation, leaving no plant undisturbed. In contrast, options like deep tillage, subsoiling, and year-round tillage may involve soil disturbance but do not necessarily remove all plant material, making clean tillage the operation where no plant is left undisturbed.

S26. Ans.(d)
Sol. The suitable relative humidity for crop production is in the range of 40-60%.

S27. Ans.(a)
Sol. The correct answer is (a) IVRI, which stands for the Indian Veterinary Research Institute. IVRI played a crucial role in the development of the first Rinderpest vaccine. Rinderpest is a viral disease affecting cattle, and the development of a vaccine has been significant in controlling its spread and impact on livestock.

S28. Ans.(a)

Sol. The correct answer is IVRI, which stands for the Indian Veterinary Research Institute. IVRI discovered Ranikhet disease, also known as Newcastle disease, a highly contagious viral infection affecting birds. The institute has been instrumental in research related to veterinary science and animal health in India.

S29. Ans.(c)

Sol. Alkaline soil typically has a pH level above 7. A pH greater than 8.2 indicates a strongly alkaline soil, which may not be suitable for certain plants that prefer a more neutral or slightly acidic environment.

S30. Ans.(a)

Sol. The electrical conductivity of saline-alkaline soil is typically expressed in deciSiemens per meter (dS/m). A value greater than 4 dS/m (decisiemens per meter) indicates a high level of electrical conductivity, which is associated with increased soil salinity.

S31. Ans.(a)

Sol. The width of agricultural equipment is an important parameter that influences the efficiency and productivity of farming operations.

(a) Disc plough: - A disc plough is a tillage equipment used for primary tillage to break and invert the soil. It typically consists of a series of individual concave cutting discs mounted on a common shaft.

The width of a disc plough is determined by the number and size of the discs. It is generally narrower compared to other tillage implements.

Disc ploughs are suitable for breaking hard and compacted soils, and their design allows for efficient soil inversion.

S32. Ans.(d)

Sol. The symptoms described, including colorless lent of unfolded leaves at the top leaving gelatinous material, are indicative of a disorder known as "tip burn" or "tip necrosis." This condition is often associated with calcium deficiency in plants.

Calcium (Ca): Calcium is a vital nutrient for plants, playing a crucial role in cell wall structure and integrity. When plants experience a calcium deficiency, the cell walls become weakened, leading to symptoms such as tip burn or necrosis in young, growing tissues. The colorless lent appearance and gelatinous material in the leaves are consistent with the effects of insufficient calcium.

S33. Ans.(b)

Sol. In aquaculture, lime is often used to adjust and stabilize the pH of the water. The lime requirement depends on the initial pH of the water and the desired target pH. The given pH range is 5.1 to 6.5, and to increase the pH to the suitable level, lime needs to be added.

Typically, the lime requirement can be calculated using the following formula:

$$Lime\ Requirement\ (kg) = \frac{(Final\ pH) - (Initial\ pH)}{Acid\ Neutralization\ Capacity\ (ANC)} \times Correction\ Factor$$

In the given scenario, the specific values for the initial and final pH, ANC, and correction factor are not provided. However, based on aquaculture practices, a common lime application rate for ponds with pH in the range of 5.1 to 6.5 could be around 1000 kg per hectare.

S34. Ans.(a)

Sol. Teak wood is commonly used in the production of plywood. Plywood is a composite material made by gluing together several thin layers of wood veneers, known as plies or layers. These layers are typically oriented at right angles to one another for strength and stability.

Teak wood is favored for plywood manufacturing due to its desirable properties: -

Durability: Teak is resistant to decay, insects, and fungal attacks, making it a durable choice for construction materials.

Stability: Teak has low shrinkage and good dimensional stability, which is important for maintaining the structural integrity of plywood.

Water Resistance: Teak contains natural oils that provide a level of water resistance, making it suitable for applications where the wood may be exposed to moisture.

Aesthetic Appeal: Teak wood has an attractive appearance, featuring a golden-brown color and a straight grain, which adds to the visual appeal of plywood.

S35. Ans.(d)

Sol. Magnesium (Mg) is the nutrient that helps in the formation of chlorophyll in plants. Chlorophyll is the green pigment responsible for photosynthesis, the process by which plants convert light energy into chemical energy to fuel their growth.

Magnesium is a central component of the chlorophyll molecule, and its presence is essential for the synthesis of chlorophyll. Without an adequate supply of magnesium, plants would exhibit chlorosis, a condition characterized by yellowing of the leaves due to a lack of chlorophyll.

S36. Ans.(e)

Sol. Phosphorus (P2O5) is an essential nutrient for plant growth and is often applied as part of fertilizers to improve crop yield. Different crops have varying nutrient requirements, and groundnut (also known as peanut) is known to have relatively high phosphorus consumption compared to the other crops listed.

Groundnut plants require phosphorus for various physiological processes, including energy transfer, root development, and flowering. As groundnut is a leguminous crop, phosphorus is particularly important for the formation of nodules on the roots, which house nitrogen-fixing bacteria, aiding in nitrogen fixation.

S37. Ans.(a)

Sol. The percentage of rice bran used in fish feed can vary based on the specific formulation and the nutritional requirements of the fish species being cultured. However, commonly, rice bran is included in fish feed at around 20% to 32%, depending on the overall composition of the feed.

Rice bran is a valuable ingredient in fish feed due to its nutritional content, including proteins, fats, and carbohydrates. It is often used as a cost-effective source of energy and protein in aquaculture feeds.

S38. Ans.(d)

Sol. The age at first calving in Murrah Buffaloes, a breed known for its high milk production, is typically in the range of 40-42 months. This means that Murrah Buffaloes usually give birth to their first calf between 40 and 42 months of age.

The delayed age at first calving allows the buffalo to reach sufficient maturity and body size before entering the reproductive phase. This is important for the overall health and reproductive performance of the animal.

S39. Ans.(b)

Sol. The daily weight gain of a well-fed newborn calf can vary based on factors such as breed, genetics, health, and the quality of care and nutrition provided. However, a common and reasonable estimate for the daily weight gain of a well-fed calf is around 325 grams.

It represents a healthy rate of growth for a calf that is receiving adequate nutrition through its diet, typically a combination of mother's milk and supplemental feed. It's important to note that the weight gain can fluctuate, and individual variations may occur.

S40. Ans.(a)

Sol. In the early stages of calf feeding, the weight gain can vary based on factors such as breed, genetics, health, and the nutritional management provided. However, a common and reasonable range for the daily weight gain of a well-fed calf in its early age is around 0.4-0.5 kg.

This range represents a healthy rate of growth for a calf that is receiving appropriate nutrition. The weight gain during this period is crucial for the overall development and well-being of the calf.

S41. Ans.(e)

Sol. An antigenic perennial crop refers to a crop that is known to induce an immune response in certain individuals due to the presence of antigens or allergens. In this context, sugar beet (Beta vulgaris) is considered an antigenic perennial crop.

Sugar beet is known to contain proteins that can act as allergens, leading to allergic reactions in susceptible individuals. The antigens present in sugar beet may trigger immune responses, and individuals with allergies may experience symptoms upon exposure.

S42. Ans.(c)

Sol. The horsepower (H.P.) requirement for a power sprayer depends on various factors, including the type of sprayer, the size of the equipment, and the intended application. However, a common range for the H.P. power required for a power sprayer is in the range of 3-5 H.P.

Power sprayers are used for agricultural activities such as pesticide application, weed control, and fertilization. The specific power requirement may vary based on the capacity and features of the sprayer.

S43. Ans.(b)

Sol. The draft requirement per unit width refers to the amount of force or pull needed for a tillage implement per unit width of the implement.

Planter: Planters typically require less draft per unit width compared to some other tillage implements. This is because planters are designed to make precise seed placements rather than extensively disturb the soil.

S44. Ans.(c)

Sol. The choice of tractor horsepower (H.P.) depends on various factors, including the size of the land, the type of crop, and the specific agricultural operations involved. For cultivating land of around 40 hectares for monocropping, a tractor with approximately 25 horsepower is needed. **Here's a general guideline for tractor horsepower based on land size:**

- Small Farms (up to 10 hectares): 15-25 H.P.
- Medium Farms (10 to 40 hectares): 25-50 H.P.

- Large Farms (40 hectares and above): 50 H.P. and above.

Given the land size of around 40 hectares, option (c) 25H.P. is within the range suitable for medium-sized farms. This tractor horsepower is likely to provide sufficient power for various cultivation tasks on the specified land area.

S45. Ans.(a)

Sol. In a 4-stroke engine, the four strokes (intake, compression, power, and exhaust) make up the engine cycle. The quality of a 4-stroke engine is generally characterized by efficiency in fuel combustion and utilization.

Fuel is not fully consumed (a): This statement is correct. In a 4-stroke engine, fuel is expected to be fully consumed during the combustion process to maximize efficiency.

S46. Ans.(c)

Sol. Power Take-Off (PTO) is a method by which power is transferred from a vehicle's engine to auxiliary equipment, such as implements or machinery. The power extracted by PTO is typically expressed as a percentage of the engine's power.

70-80: This range is a reasonable and common estimate for the efficiency of power extraction by PTO. It indicates that 70-80% of the engine's power is effectively transferred to the auxiliary equipment.

S47. Ans.(d)

Sol. The correct option is (d) Bahani, Jano, Uthapani, Dian.

- Bahani: Bahani is a type of boat that is commonly used for sailing in water bodies like Mahanadi-Chilika Lake.
- Jano: Jano is another type of boat suitable for navigating in lakes and rivers, including Mahanadi-Chilika Lake.
- Uthapani: Uthapani is a type of boat used for sailing in water bodies like Mahanadi-Chilika Lake.
- Dian: Dian is also mentioned as a type of boat used in the specified region.

S48. Ans.(e)

Sol. Shrimp cultivation in India is a significant industry, and the area covered under shrimp cultivation has grown over the years.

11.51 lakh hac: This option represents the area covered under shrimp cultivation in India. "Hac" stands for hectares. Therefore, the correct answer is (e) 11.51 lakh hac.

S49. Ans.(a)

Sol. The period of heat, also known as estrus, in cows typically lasts for about 18 hours on average. During this time, a cow is receptive to mating, and if she is not bred, the heat cycle will occur again after a certain period, usually around 21 days.

S50. Ans.(d)

Sol. ESP (Exchangeable Sodium Percentage) is a measure of the sodium content relative to other cations in the soil. It is expressed as a percentage. Saline-alkaline soils, which are often associated with high levels of sodium, may have an ESP greater than 15.

S51. Ans.(a)
Sol. The floor space requirement for broiler poultry is generally recommended to be around 1 square foot per bird. This allows for adequate space for the broilers to move around, feed, and grow without overcrowding, which can adversely affect their health and well-being.

S52. Ans.(a)
Sol. Aseel chickens are known for their heavy body structure and are often raised for meat production. They have a significant weight gain, and their meat quality is appreciated.

S53. Ans.(b)
Sol. The floor space required for a pregnant cow depends on various factors, including the size of the cow, the stage of pregnancy, and management practices. However, a common guideline is to provide a minimum of 100-120 square feet of space per pregnant cow. This allows the cow enough room to move comfortably and lie down.

S54. Ans.(e)
Sol. Tuna, specifically bluefin and yellowfin tuna, is known for having a high protein content. Tuna is a type of saltwater fish that is not only rich in protein but also provides essential omega-3 fatty acids. The protein content in tuna makes it a popular choice for those seeking a lean and protein-packed source of nutrition.

S55. Ans.(e)
Sol. In fertigation (the application of fertilizers through irrigation), the nutrient provided in the largest amount for banana plants is often potassium, which is a major component of potash fertilizers. Potassium is crucial for various physiological processes in banana plants, including fruit development, disease resistance, and overall plant health.

S56. Ans.(b)
Sol. The optimum pH range for banana plants is generally considered to be between 5.5 and 6.5. This range is slightly acidic to neutral, which is favorable for the absorption of essential nutrients by the plant roots. Outside this pH range, nutrient availability can be affected, impacting the overall health and growth of banana plants.

S57. Ans.(d)
Sol. The optimum pH range for guava plants is generally considered to be between 6.5 and 8.2. This range is slightly acidic to slightly alkaline, providing suitable conditions for nutrient uptake by the plant roots. Maintaining the soil pH within this range is important for the healthy growth and development of guava plants.

S58. Ans.(e)
Sol. The optimum pH range for grape plants is generally considered to be between 5.5 and 6.5. This range is slightly acidic to neutral, providing favorable conditions for nutrient absorption by the plant roots. Maintaining the soil pH within this range is crucial for the healthy growth and development of grapevines.

S59. Ans.(c)

Sol. Lopping is a form of cutting where all branches of a plant are cut, often near ground level. This practice is commonly used in the management of fodder crops and other woody plants to encourage new growth and maintain the health and productivity of the plants.

S60. Ans.(e)

Sol. Magnesium plays an essential and catalytic role in the process of photosynthesis in plants. It is a component of the chlorophyll molecule, which is crucial for capturing light energy and converting it into chemical energy during photosynthesis. Chlorophyll is responsible for the green color of plant leaves and is directly involved in the absorption of light.

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