Seat No:_____ **Enrollment No:_____**

PARUL UNIVERSITY

COLLEGE OF AGRICULTURE

B.Sc.(Hons.)Agriculture Summer 2018 - 19 Examination

Semester: 4 **Date: 09/04/2019**
Subject Code: 20101253 **Time: 10:30am To 01:00pm**
Subject Name: Farming System & Sustainable Agriculture **Total Marks: 50**

Instructions

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Do as Directed.

A. Fill in the blanks. (Each of 0.5 marks) **(05)**

1. Every reservoir is provided with certain storage capacity to accommodate for the natural sedimentation rate, which capacity is called its _____.
2. EC of saline soil is _____.
3. _____ m of ground water depth consider as water logged condition
4. A Current concept of sustainable Agriculture is achieving them through _____ & _____.
5. Nitrogenous fertilizers should be applying in _____ dose to improve fertilizer use efficiency.
6. The WHO standard for drinking water is _____ NO_3^- N/L
7. High levels of nitrate-N can lead to _____ disease particularly in infants (< 6 months old).
8. Ozone layer is present in _____ layer of atmosphere.
9. Top soil of _____ cm serves many functions such as – support for rooting, supply of plant nutrients, storage and release of soil moisture.
10. Saline soil is also known as _____.

B. Multiple choice type questions. (Each of 0.5 mark) **(10)**

1. _____ is/are irrigation related problem/s.
   A. Siltation of reservoirs C. Eutrophication
   B. Soil salinization & alkalization D. A & B both
2. _____ is/are element/s of sustainability
   A. Soil conservation C. A & B both
   B. Soil degradation D. None of the above
3. Alkali soil is also known as _____
   A. Sodic C. Solanchalk
   B. Solonetz D. A & B both
4. _____ is/are off-farm resource/s
   A. Pesticide C. FYM
   B. Manure D. All of the above
5. ESP of saline soil is _____
   A. < 15 C. Both of these
   B. > 15 D. None of these
6. _____ treatment/s is/are include under IPM.
   A. Biological C. Cultural
   B. Chemical D. All of the above
7. Gypsum is use to reclaim _____ soil.
   A. Alkali soil C. Acidic soil
   B. Saline soil D. A & B both

8. Hard CaCo3 kankar pan in the sub-soil is present in _____ soil
   A. Alkali soil C. Acidic soil
   B. Saline soil D. A & B both
9. _____ is/are on-farm resource/s.
   A. Bio-pesticide C. Manures
   B. FYM D. All of the above
10. pH of alkali soil is _____.
   A. > 7.2 C. > 8.2
   B. > 10 D. None of the above
11. Growing of two or more dissimilar crops simultaneously on the same piece of land, base crop is in distinct row arrangement is known as _____
   A. Mix cropping C. Sequential cropping
   B. Intercropping D. All of the above
12. Growing of succeeding crop before the harvesting of preceding crop is known as _____
   A. Relay cropping C. Staggered planting
   B. Ratoon cropping D. A & B both
13. The yearly sequence and special arrangement of crop or crops and fallow on a given area or region is known as _____
   A. Cropping pattern C. Farming system
   B. Cropping sequence D. None of the above
14. _____ is/are component/s of organic farming.
   A. Diverse crop rotstion C. INM
   B. weed control D. All of the above
15. Bio fertilizer such as rhizobium culture is an effective source of N supply to _____ crops.
   A. Cereal crops C. Both of these
   B. Leguminous crops D. None of these
16. Azotobacter and Azospirillium help in Nitrogen fixation and supply to _____ crops.
   A. Cereal crops C. Both of these
   B. Leguminous crops D. None of these
17. Sesbania rostrata (dheincha) can fix _____ kg nitrogen per hacter.
   A. 100-250 C. 300-400
   B. 50-100 D. 400-500
18. Ozon layer is present at _____ height from ground level.
   A. 10-15 km C. 55-65 km
   B. 35-55 km D. 15-35 km
19. Methane production from rice field is slow in _____ soil.
   A. Alkaline soil C. Acidic soil
   B. Calcareous soil D. Saline soil
20. Which condition/s favouring methane production and emission in rice field.
   A. Anaerobic conditions in wetland soils C. Application of chemical fertilizers
   B. Use of organic amendments D. All of the above

Q.2 Do as Directed. **(05)**

A. Define the following. (Any five)

1. Relay cropping
2. Ratoon cropping
3. Organic farming
4. Waterlogging
5. Siltation
6. Sustainable Agriculture
7. Deforestation

B Answer the following. (Any Five) **(05)**

1. Differentiate: Row inter-cropping v/s Strip inter-cropping
2. Differentiate: intercropping v/s mix-cropping
3. Describe bio-fertilizers
4. Differentiate: Salinization v/s Alkalization
5. Reclamation of saline and alkaline soils
6. Differentiate: Mix-cropping v/s Mix-farming
7. Enlist the major factors affecting the ecological balance and sustainability of agricultural resources are:

Q.3 Write short notes. (Any five) **(10)**

1. Principles of farming system
2. How to improve fertilizer use efficiency
3. Potential Effects of Greenhouse effect or Global Warming
4. Principles of organic farming
5. Prevention, control and reclamation measures for water logging condition
6. Make process diagram of soil degradation through different processes

Q.4 Attempt any Three/Long Questions/Example **(15)**

1. Describe eutrophication
2. Enlist the components of organic farming and describe any three components.
3. Describe methane emission from rice field
4. Objectives of farming system