

PARUL UNIVERSITY
COLLEGE OF AGRICULTURE

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

Semester: 3

Subject Code: 20101203

Subject Name: Crop Production Technology I (Kharif crops)

Date: 18/04/2019

Time: 10:30am to 1:00pm

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. _____ gene is responsible for dwarfness in wheat crop.
2. _____ gene is responsible for dwarfness in rice crop.
3. The water requirement of rice is _____.
4. Nitrogen loss in the soil is occurring as _____, _____, _____ and _____.
5. 1 Unit increase in pH makes Zinc _____ times less soluble.
6. In India _____ state is first in rice production.
7. _____ responsible for poor photosynthetic activity and less utilization of Solar energy.
8. Seed rate of green gram is _____ for *kharif* season variety.
9. _____ varieties possess the trait of high responsiveness towards heavy fertilizer applications.
10. The Main Pearl millet Research Station is located at _____.

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

1. Central Rice Research Institute (CRRRI) is located at _____.

a) Philippines	c) Nawagam
b) Cuttak	d) Anand
2. Moisture level of paddy grain should be _____ at the time of harvesting.

a) 20-23%	c) 10-12%
b) 12-15%	d) None
3. Rice crop is requiring _____ pH of soil.

a) 5.5 – 6.5	c) 6.5-7.5
b) 4.5-5.5	d) None
4. Green gram is _____ crop.

a) Drought susceptible	c) Drought tolerant
b) Both	d) None
5. Pigeon pea is highly susceptible to _____ at the time of flowering

a) Dew	c) Fog
b) Frost	d) None
6. In pearl millet if sowing is delayed, there is a drastic reduction in yield due to more incidences of diseases like

a) Downy mildew and ergot	c) Leaf curl
b) Yellow mosaic	d) Seed and Seedling rot
7. Puddling causes _____ in bulk density

a) Increase	c) Both
b) Decrease	d) None
8. _____ is the rust resistant variety of wheat.

a) GW 496	c) Sonalika
b) GW 273	d) None
9. In paddy field water loss by percolation is about _____ %.

a) 50-60	c) 60-70
b) 40-50	d) 70-80
10. Green gram requires _____ bacterial treatment.

a) Rhizobium	c) Azospirillum
b) Azotobacter	d) All of the above

11. _____ is the staple food for more than half of the world's populations.
 - a) Pearl millet
 - b) Green gram
 - c) Pigeon pea
 - d) Rice
12. _____ is used as a green manure crop.
 - a) Rice
 - b) Pearl millet
 - c) Green gram
 - d) None of these
13. _____ is the origin of pigeon pea.
 - a) India
 - b) Africa
 - c) South & SE tropical Asia
 - d) Central Burma
14. Rice is a _____ plant.
 - a) Long day plant
 - b) Short day plant
 - c) Neutral
 - d) None
15. _____ variety is tall, weak stemmed and susceptible to lodging and less responsive to heavy fertilizers.
 - a) Indicas
 - b) Japonicas
 - c) Javanicas
 - d) None
16. Nitrogen is lost through soil as _____.
 - a) NH₃ volatilisation
 - b) Leaching
 - c) Denitrification
 - d) All of the above
17. In rice the requirement of phosphorus is _____ for red soil.
 - a) 80 kg P₂O₅ /ha
 - b) 40 kg P₂O₅ /ha
 - c) 60 kg P₂O₅ /ha
 - d) 20 kg P₂O₅ /ha
18. Botanical name of black gram is _____.
 - a) *Vigna radiata* L.
 - b) *Cajanus cajan* L.
 - c) *Pennisetum glaucum*
 - d) *Vigna mungo* (L.)
19. Pearl millet can be grown in _____ season.
 - a) kharif
 - b) rabi
 - c) summer
 - d) a & c both
20. Green gram should be sown at a _____ depth.
 - a) 2-3 cm
 - b) 5-7 cm
 - c) 10-12 cm
 - d) 12-14 cm

Q.2 Do as Directed.

A. Define the following. (Any five)

(05)

1. Puddling
2. Critical stages
3. Ideotype
4. Rouging
5. Field preparation
6. Water requirement
7. Thinning

B. Answer the following. (Any Five)

(05)

1. Give the reasons for low yield of crops
2. Write down scientific name and family of the following crops
 - a. Green gram
 - b. Black gram
 - c. Pearl millet
 - d. Pigeon pea
3. Write down BPH resistant varieties of rice
4. Enlist Growth Stages of Rice Plant
5. Climatic requirement for blackgram
6. Differentiate: *Cajanus cajan* var. *Bicolour* Vs *Cajanus cajan* var. *flavus*
7. Give reason. Summer pearl millet give more yield than monsoon crop

Q.3 Write short notes. (Any five)

(10)

1. Describe the rice varieties:
 - Indicas
 - Japonicas
 - Javanicas
2. Advantages and disadvantages of transplanting.
3. Economic importance of green gram.

4. Chemical weed control for transplanted rice.
5. Steps for increasing fertilizer use efficiency.
5. Give detailed information about following fertilizers:
 1. BGA
 2. Azolla

Q.4 Attempt any Three/Long Questions

(15)

1. Describe the features of NPT's (New Plant Types) of cereal crops
2. Chemical, physical and biological changes that occur during submergence and puddling in rice
3. Detailed crop cultivation practice for Black gram
4. Detailed crop cultivation practice for pearl millet