

PARUL UNIVERSITY
COLLEGE OF AGRICULTURE
B.Sc. (Hons.) Agriculture Winter 2018 - 19 Examination

Semester: 3

Date: 1-11-2018

Subject Code: 20101203

Time: 10:30 am to 1:00 pm

Subject Name: Crop production technology (Kharif Crops)

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

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

1. Pigeon pea is highly susceptible to _____ at the time of flowering

a) Dew	c) Fog
b) Frost	d) None
2. Puddling causes _____ in bulk density

a) Increase	c) Both
b) Decrease	d) None
3. 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
4. Rice crop is requiring _____ pH of soil.

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

a) Drought susceptible	c) Drought tolerant
b) Both	d) None
6. Moisture level of paddy grain should be _____ at the time of harvesting.

a) 20-23%	c) 10-12%
b) 12-15%	d) None
7. _____ is the rust resistant variety of wheat.

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

a) 50-60	c) 60-70
b) 40-50	d) 70-80
9. Central Rice Research Institute (CRRI) is located at _____.

a) Philippines	c) Nawagam
b) Cuttak	d) Anand

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

Q.2 Do as Directed.

A. Define the following. (Any five)

(05)

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

B. Answer the following. (Any Five)

(05)

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

Q.3 Write short notes. (Any five)

(10)

1. Give detailed information about following fertilizers:
 1. BGA
 2. Azolla

2. Describe the rice plant types:
 1. Indicas
 2. Japonicas
 3. Javanics
3. Write the economic importance of green gram.
4. Write the steps for increasing fertilizer use efficiency.
5. What are the advantages and disadvantages of transplanting?
6. Explain chemical weed control in transplanted rice.

Q.4 Attempt any Three/Long Questions/Example

(15)

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