

(6 pages)

Reg. No. : .....

Code No. : 40290 E      Sub. Code : JSCH 3 A/  
SSCH 3 A

B.Sc. (CBCS) DEGREE EXAMINATION,  
NOVEMBER 2019.

Third Semester

Chemistry — Main

Skill Based Subject — AGROCHEMISTRY

(For those who joined in July 2016 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. A high nitrogen providing organic manures is  
(a) urea                      (b) super phosphate  
(c) blood meal              (d) oil cakes
2. The molecular formula of urea is  
(a)  $\text{Ca}_3(\text{PO}_4)_2$               (b)  $\text{CaH}_4(\text{PO}_4)_2$   
(c)  $\text{NH}_2\text{CONH}_2$               (d)  $(\text{NH}_4)_2\text{SO}_4$

3. Which of the following is an Inorganic Pesticide?  
(a) DDT  
(b) BHC  
(c) Bordeaux mixture  
(d) None of the above
4. Pyrethrin is a  
(a) fertilizer                      (b) insecticide  
(c) metalloid                      (d) none of the above
5. \_\_\_\_\_ refers to the mineral or organic material from which the soil is formed.  
(a) relief  
(b) parent material  
(c) organism  
(d) chemical or artificial materials
6. The main composition of soil is  
(a) minerals                      (b) organic matters  
(c) water                          (d) air
7. \_\_\_\_\_ denotes the ability of the soil to undergo deformation without cracking.  
(a) texture                          (b) plasticity  
(c) dispersion                      (d) none of the above

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8. Yellow or red colour soil indicates the
- Presence of high organic matter
  - Presence of ferric iron oxides
  - Presence of manganese oxide
  - Presence of  $\text{CaCO}_3$
9. The moisture content in the soil will be determined by drying at \_\_\_\_\_ in oven.
- 200°C
  - 90°C
  - 105–110°C
  - 250°C
10. \_\_\_\_\_ tool is used for soil sampling in hard/dry land.
- tube auger
  - screw type auger
  - spade
  - scale

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) How is triple superphosphate manufactured?
- Or
- (b) What are micronutrients? Explain their role in plants.

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12. (a) Give any two insecticides obtained from plants and explain them.

Or

- (b) What are the DDT and BHC? Explain them briefly.

13. (a) Discuss briefly the origin of soil.

Or

- (b) Write a note on the soil formation.

14. (a) Explain briefly on soil plasticity and soil shrinkage.

Or

- (b) Explain the soil colour and flocculation.

15. (a) How is the pH of soil determined?

Or

- (b) How is the amount of phosphorus present in the soil estimated?

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**PART C — (5 × 8 = 40 marks)**

**Answer ALL questions, choosing either (a) or (b).**

**Each answer should not exceed 600 words.**

16. (a) What are macronutrients? Explain the role of nitrogen, potassium and phosphorus in plant growth.

**Or**

- (b) What are manures? Explain any two manures in details.

17. (a) Explain briefly the herbicides, rodenticides and attractants with suitable examples.

**Or**

- (b) What is meant by first aid? What are the safety measures to be taken during the handling of insecticides?

18. (a) How are rocks and minerals formed? Explain them.

**Or**

- (b) What are the main components of soil? Explain them in detail.

19. (a) Write a short note on pore space and particle density of soil.

**Or**

- (b) How are the alkaline, acid and saline nature of soil diagnosed?

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20. (a) Explain briefly how the soil is tested. Write down the importance of soil testing.

**Or**

- (b) How are the moisture content, EC and particle density of the soil sample determined?
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