

***2nd BSc 1st sem. FE-20-21 (File# 79)***

**BAGALKOT**

**Mar. 13, 2021**

UHS

Name of the Student & ID Number Set code - A

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| U | H | S | 1 | 9 | U | G |  |  |  |  | College code | | | | | | | 0 |  |

**Part – A Question paper (2 pages):** **Answer within 30 min.**

**All answers should be written only in OMR Sheet. Total Marks : 20**

***Write the Correct Part-A Question paper Set Code in OMR sheet***.

Please return the OMR sheet **after 30 min** of start of examination to the invigilator.

**Soil, water and plant analysis : SAC-201(1+1)** Time: 10:30~11:00

**Q.I. Select the most correct answer A/B/C/D for the following questions.**

**20 x 0.5 mark = 10 Marks**

1. The pH plus pOH is equal to

a. 7  **b.14** c. 12 d. 6

1. Buffer solutions used for standardization of pH meter are of \_\_\_\_\_\_\_\_\_\_\_pH

**a) 4.0, 7.0, 9.2** b) 4.2, 7.0, 9.2 c) 4.2, 7.2, 9.0 d) 4.0, 7.2, 9.0

1. Azomethane – H method is used for analysis of \_\_\_\_\_\_\_\_\_\_\_\_\_

a) Ca b) P c) N **d) B**

1. Kjeldahal apparatus is mainly used in determination of

**a)N**  b)P c)P&K d)K

1. 1.2 is a multiplying factor to obtain

a) P2O5 from P b) P from P2O5 **c) K from K2O** d)K2O from K

1. Soil sample is sieved through \_\_\_\_\_\_\_ sieve for general laboratory analysis

a) 2.0 mesh b) 2.0 inch **c) 2.0 mm** d) 2.0 cm

1. The number of gram equivalents of solute per litre of solution

**a)Normality** b)Molality c)Molarity d)Both b & c

1. 2.29 is a multiplying factor to obtain

**a) P2O5 from P** b) P from P2O5 c) K from K2O d) K2O from K

1. Potentiometer (pH) is calibrated with

a)HCl b)H2SO4 c) KCl **d) Buffers**

10. The mesh size used for sieving the soil sample for general laboratory analysis is

a) 2.0 inch b) 2.0 cm **c) 2.0 mm** d) 2.0 µm

11. The mesh size used for sieving the soil sample for organic carbon estimation is

a) 2.0 cm b) 2.0 mm **c) 0.2 mm** d) 0.2 µm

12. The term pH was propounded by

a) Hunter b) Nernst **c) Sorenson** d) Truog

13. How to convert organic carbon to organic matter for surface soil

**a. Multiply by 1.724** b. Multiply by 1.723 c.Multiply by 1.523 d. Multiply 1723

14. How will you prepare 200 ml of 5% NaOH solution

1. 30g **b. 10 g**  c. 20g d. 15 g

15. If the available N of soil is 240 kg/ha then soil is

1. **Low**  b.Medium c.High d. very high

16. The critical limit of DTPA-Zn in soil \_\_\_ppm

1. 2.5 b. 0.5 **c. 0.6** d. 0.2

17. Parameter used to determine sodium hazard in irrigation water

**a. SAR**  b.RSC c. ESP d. both a & b

18. If 2.5 mL of 100 ppm of K is pipette out and volume made up to 25 mL with distilled water, then the concentration of K in the solution prepared is

a) **10 ppm of K**  b) 20 ppm of K c) 30 ppm of K d) 40 ppm of K

**Soil, water and plant analysis : SAC-201(1+1)** SET-A

19. The instrument in which a filter is used as monochromator is

a) pH meter b) EC meter  **c) Flame photometer** d) AAS

20. The indicator used for the estimation of bicarbonates in water sample is

a) Phenolphthalein **b) Methyl orange** c) Methyl red d) Potassium chromate

**Q.II. Enter TRUE (T) /FLASE (F) for the following statements in OMR sheet**

1. **0.5 mark = 05 Marks**

21. Organic carbon content in soil is an index of the productivity of soil

1. **The organic carbon in soil is oxidized to CO2 by KMnO4 making use of**

**heat of dilution of HCL**

False  
22

23

24

27

29

30

1. **Olsen’s method of available P estimation is followed for acidic soil**
2. **The intensity of turbidity is read in spectrophotometer at 660nm for**

**available S estimation**

25. One unit decrease in soil pH, increases the soil acidity by 10 times

26. The pH of 1 N HNO3 is zero

**27. Calomel electrode is made up of silver wire coated with silver chloride**

1. Water soluble & Exchangeable K are considered as available nutrient pool.
2. **K2Cr2O7 is a strong oxidising agent used in N estimation.**
3. **Rapid tissue test is a quantitative test.**

**Q.III. Match column A with column B for correct answer. 10 x 0.5 mark = 05 Marks**

**D**

**E**

**F/J**

**H**

**I**

**J/F**

**A**

**B**

**C**

|  |  |  |  |
| --- | --- | --- | --- |
| Q.No | Column A |  | Column B |
| 31 | Available P D | A | Alkaline permanganate method |
| 32 | Mixed indicator E | B | Versenate titration |
| 33 | Silver chromate F | C | Wheat stone bridge |
| 34 | Azomethane H | D | 660 nm |
| 35 | Orthophosphoric acid & sodium fluoride H | E | Distillation for nitrogen in plant sample |
| 36 | Barium chloride I | F | Chloride estimation |
| 37 | Silver chromate J | G | Availbe boron in soil |
| 38 | Available N A | H | Phosphorus estimation |
| 39 | Exch.Ca & Mg B | I | S estimation |
| 40 | Electrical conductivity C | J | Cl estimation |

**END OF PART – A QUESTION PAPER march 13, 2021**

Student’s Signature…………………………….. Invigilator’s signature……………………