MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END THEORY EXAMINATION

B.Sc.(Hons.) Horticulture

Semester	: IV (New)	Term	: Second	Academic Year	: 2022-23
Course No.	: H/SSAC 243	Title	: Soil, Water and Plant Analysis		
Credits	: 2 (1+1)				
Day & Date	: Tuesday, 11.07.2023	Time	: 09:00 to 11:00 hrs.	Total Marks	: 40

Note :
1. Solve ANY EIGHT questions from SECTION 'A'.
2. All questions from SECTION 'B' are compulsory
3. All questions carry equal marks.
4. Draw neat diagram wherever necessary.

SECTION 'A'

Q.1 Explain acidic soil and mention the factors responsible for formation of acidic soils.

Q.2 Describe different types of mechanism of transport of ions from soil to root.

Q.3 What do you mean by waterlogged soil? Explain management practices for reclamation of waterlogged soil.

Q.4 State salient features of saline soil. Describe different criteria employed for appraisal of saline soil.

Q.5 Define pollution. Explain control measures of water pollution.

Q.6 Classify the soil micro-organisms. Describe in detail the classification of bacteria.

Q.7 Write in detail the importance of soil and plant sample analysis.

Q.8 Define the term radioactivity. Write application of radio tracer technology in soil and plant nutrient studies.

Q.9 Enlist different methods of analysis of soil samples.

Q.10 Enlist the criteria for quality of irrigation water. Explain the management of poor quality of irrigation water for agriculture.

SECTION 'B'

Q.11 Fill in the blanks:

1) _____ group of microorganisms is the most active at the terminal stage of composting.

2) The carbonate and bicarbonate salt of _____ is dominant in alkali soil.

3) The oxygen diffusion meter measures the mobility of _____ in the soil.

4) _____ is defined as, the capacity or potentiality of a compound either to oxidize or to reduce a substance or compound and this is expressed by electron unit.

Q.12 Match the pairs:

'A'	'B'
1) Isotopes	a) Beer's Law
2) Isobars	b) Lambert-Beer's Law
3) Atomic Absorption Spectroscopy	c) $_8O^{16}$, $_8O^{17}$
4) Spectrophotometer	d) $_{18}Ar^{40}$, $_{19}K^{40}$

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