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NEET MINERAL NUTRITION — ESSENTIAL MINERAL ELEMENTS: MACRO- AND MICRONUTRIENTS AND THEIR ROLES — PYQS

Max. Marks: 104 **Questions:** 26

Section A (MCQ) — 26 questions

Q.1 Which micronutrient is required for splitting of water molecule during photosynthesis? [NEET (UG) 2023]

(1) Molybdenum (2) Magnesium
(3) Copper (4) Manganese

Scan or tap for the full solution

Q.2 Match **List I** with **List II**: [NEET (UG) 2023]

List I		List II	
A.	Iron	I.	Synthesis of auxin
B.	Zinc	II.	Component of nitrate reductase
C.	Boron	III.	Activator of catalase
D.	Molybdenum	IV.	Cell elongation and differentiation

(1) A-II, B-III, C-IV, D-I (2) A-III, B-I, C-IV, D-II
(3) A-II, B-IV, C-I, D-III (4) A-III, B-II, C-I, D-IV

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Q.3 Match **List-I** with **List-II**

List - I		List - II	
a.	Manganese	i.	Activates the enzyme catalase
b.	Magnesium	ii.	Required for pollen germination
c.	Boron	iii.	Activates enzymes of respiration
d.	Iron	iv.	Functions in splitting of water during photosynthesis

Choose the correct answer from the options given below: [NEET (UG) 2022]

(1) (a)-(iii), (b)-(iv), (c)-(i), (d)-(ii)
(2) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)
(3) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
(4) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)

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Q.4 Match the following concerning essential elements and their functions in plants

List-I		List-II	
a.	Iron	i.	Photolysis of water
b.	Zinc	ii.	Pollen germination
c.	Boron	iii.	Required for chlorophyll biosynthesis
d.	Manganese	iv.	IAA biosynthesis

Select the correct option [NEET (UG) 2020]

(1) (a)-(iv), (b)-(iii), (c)-(ii), (d)-(i)
(2) (a)-(iv), (b)-(i), (c)-(ii), (d)-(iii)
(3) (a)-(iii), (b)-(iv), (c)-(ii), (d)-(i)
(4) (a)-(ii), (b)-(i), (c)-(iv), (d)-(iii)

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Q.5 Which of the following elements is responsible for maintaining turgor in cells? [NEET 2018]

(1) Sodium (2) Calcium
(3) Magnesium (4) Potassium

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Q.6 In which of the following forms is iron absorbed by plants? [NEET 2018]

(1) Ferrous (2) Both ferric and ferrous
(3) Ferric (4) Free element

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Q.7 In which of the following all three are macronutrients? [NEET 2016 (Phase 1)]

(1) Molybdenum, magnesium, manganese
(2) Nitrogen, phosphorus, sulphur
(3) Boron, Zinc, manganese
(4) Iron, copper, molybdenum

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Q.8 Which is essential for the growth of root tip? [NEET 2016 (Phase 2)]

(1) Zn (2) Fe (3) Ca (4) Mn

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Q.9 The oxygen evolved during photosynthesis, comes from water molecules. Which one of the following pairs of elements is involved in this reaction? [AIPMT 2015]

(1) Magnesium and Molybdenum
(2) Magnesium and Chlorine
(3) Manganese and chlorine
(4) Manganese and Potassium

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Q.10 Minerals known to be required in large amounts for plant growth include [AIPMT 2015 (Cancelled)]

(1) potassium, phosphorus, selenium, boron
(2) magnesium, sulphur, iron, zinc
(3) phosphorus, potassium, sulphur, calcium
(4) calcium, magnesium, manganese, copper.

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Q.11 Which of the following elements is a constituent of biotin? [NEET 2013 (Karnataka)]

(1) Magnesium (2) Calcium
(3) Phosphorus (4) Sulphur

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Q.12 Which one of the following is wrong statement? [AIPMT 2012 (Prelims)]

(1) *Anabaena* and *Nostoc* are capable of fixing nitrogen in free-living state also.
(2) Root nodule forming nitrogen fixers live as aerobes under free-living conditions.
(3) Phosphorus is a constituent of cell membranes, certain nucleic acids and all proteins.
(4) *Nitrosomonas* and *Nitrobacter* are chemo-autotrophs.

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Q.13 Best defined function of manganese in green plants is [AIPMT 2012 (Prelims)]

(1) photolysis of water (2) Calvin cycle
(3) nitrogen fixation (4) water absorption

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Q.14 Which one of the following is essential for photolysis of water? [AIPMT 2011 (Mains)]

(1) Copper (2) Manganese
(3) Boron (4) Zinc

Scan or tap for the full solution

Q.15 Which one of the following is not an essential mineral element for plants while the remaining three are? [AIPMT 2011 (Mains)]

(1) Iron (2) Manganese
(3) Cadmium (4) Phosphorus

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Q.16 An element playing important role in nitrogen fixation is [AIPMT 2010 (Prelims)]

(1) molybdenum (2) copper
(3) manganese (4) zinc

Scan or tap for the full solution

Q.17 Which one of the following is not a micronutrient? [AIPMT 2010 (Prelims)]

(1) Molybdenum (2) Magnesium
(3) Zinc (4) Boron

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Q.18 Manganese is required in [AIPMT 2009]

(1) plant cell wall formation
(2) photolysis of water during photosynthesis
(3) chlorophyll synthesis
(4) nucleic acid synthesis

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Q.19 Which one of the following elements is not an essential micronutrient for plant growth? [AIPMT 2007]

(1) Zn (2) Cu (3) Ca (4) Mn

Scan or tap for the full solution

Q.20 A plant requires magnesium for [AIPMT 2007]

(1) protein synthesis
(2) chlorophyll synthesis
(3) cell wall development
(4) holding cells together

Scan or tap for the full solution

Q.21 Sulphur is an important nutrient for optimum growth and productivity in [AIPMT 2006]

(1) oilseed crops (2) pulse crops
(3) cereals (4) fibre crops.

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Q.22 Plants take zinc in the form of [AIPMT 2000]

(1) $ZnSO_4$ (2) Zn^{2+} (3) ZnO (4) Zn

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Q.23 The deficiencies of micronutrients, not only affect growth of plants but also vital functions such as photosynthetic and mitochondrial electron flow. Among the list given below, which group of three elements shall affect most, both photosynthetic and mitochondrial electron transport? [AIPMT 2005]

(1) Co, Ni, Mo (2) Ca, K, Na

(3) Mn, Co, Ca (4) Cu, Mn, Fe

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Q.24 Plants deficient of element zinc, show its effect on the biosynthesis of plant growth hormone [AIPMT 2003]

(1) auxin (2) cytokinin

(3) ethylene (4) abscisic acid.

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Q.25 Boron in green plants assists in [AIPMT 2003]

(1) activation of enzymes

(2) acting as enzyme co-factor

(3) photosynthesis

(4) sugar transport

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Q.26 Mg is a component of [AIPMT 2000]

(1) chlorophyll (2) cytochrome

(3) haemoglobin (4) haemocyanin

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ANSWER KEY

Ques.	1	2	3	4	5	6	7	8	9	10	11
Ans.	**4**	**2**	**2**	**3**	**4**	**3**	**2**	**3**	**3**	**3**	**4**
Ques.	12	13	14	15	16	17	18	19	20	21	22
Ans.	**3**	**1**	**2**	**3**	**1**	**2**	**2**	**3**	**2**	**1**	**2**
Ques.	23	24	25	26							
Ans.	**4**	**1**	**4**	**1**							