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MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : IV (New)	Term : II	Academic Year : 2011-12
Course No. : SSAC 243	Title : Manures, Fertilizers and Agrochemicals	
Credits : 3 (2+1)		
Day & Date : Saturday, 28.04.2012	Time : 14.00 to 17.00	Total Marks : 80

- 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 diagrams wherever necessary.

SECTION "A"

- Q.1 a) What do you understand by organic recycling? Which are the sources of organic matter?
b) Define and classify the bulky and concentrated organic manures.
- Q.2 a) Enlist the improved method of FYM preparation. Explain gobar gas plant and slurry.
b) Define C:N ratio. Write the significance of C:N ratio.
- Q.3 a) What is composting? Explain in brief NADEP method of composting.
b) Explain in brief the method of preparation of Vermicompost. Write the nutrient status of Vermicompost.
- Q.4 a) Define green manuring. Write the advantages and disadvantages of green manuring.
b) Write short notes on sewage and sludge with their chemical composition.
- Q.5 a) Define fertilizer. Classify nitrogenous fertilizer with examples.
b) Classify phosphatic fertilizers with suitable example. Write in detail the management of phosphatic fertilizers.
- Q.6 a) Define complex fertilizer. Write down the characteristics of complex fertilizers.
b) Explain in brief the reactions of micronutrients in soil.
- Q.7 a) Define biofertilizers. Explain the role of biofertilizers in agriculture.
b) What are the sources of potassium in soil? Classify potassic fertilizers.
- Q.8 a) What is pesticides? Give the detail classification of pesticides.
b) Explain the mode of action of nicotine and pyrethrum insecticides.

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- Q.9 a) Classify organophosphate insecticides. Write the general mode of action of organophosphate insecticides.
b) What are the classes of herbicides? Explain in brief the general mode of action of herbicides.
- Q.10 a) Define fungicides. Classify fungicides with suitable examples.
b) Define plant growth regulators. Explain the role of different phytohormones.

SECTION "B"

- Q.11 a) Define the following terms:
1) Micronutrients 2) Ammonification
3) Poudrette 4) Defoliant
b) Draw the structure of following organic compounds:
1) Nicotine 2) DDT 3) IAA 4) Phenyl mercuric acetate
- Q.12 Do as directed.
1) Name the two crops grown under green manuring in situ.
2) Write the two examples of fertilizers having excellent storage properties.
3) Name two edible and non-edible oil cakes.
4) In which year fertilizer control order under the essential commodity was passed by Government of India.
5) Give the two examples of herbicides.
6) State two examples of auxins.
7) State two examples of hygroscopic fertilizers.
8) State the main objective of insecticides act passed by the Government of India.

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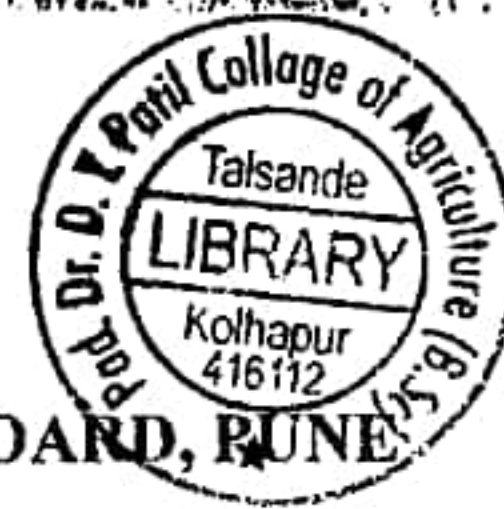
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MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester	: IV (New)	Term	: II	Academic Year	: 2010-11
Course No.	: SSAC 243	Title	: Manures, Fertilizers and Agrochemicals		
Credits	: 3 (2+1)				
Day & Date	: Monday, 24 APR 2011	Time	: 14.00 to 17.00	Total Marks	: 80

- 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 diagrams wherever necessary.

SECTION "A"

- Q.1 a) Define organic recycling. Which sources are used for organic recycling?
b) Define C : N ratio. Write down the significance of C : N ratio.
- Q.2 a) Explain the improved methods of FYM preparation.
b) What is composting? Write in detail the factors affecting composting.
- Q.3 a) Differentiate between bulky and concentrated organic manures.
b) Define manure. Give detail classification of manures.
- Q.4 a) Define green manuring and explain its advantages and disadvantages.
b) Classify pesticides with suitable examples.
- Q.5 a) Write note on Sewage and sludge.
b) Explain in detail about methods of fertilizer application.
- Q.6 a) Define fertilizers. Classify fertilizers on the basis of nutrient content.
b) Define fertilizer mixtures. Write its advantages and disadvantages.
- Q.7 a) Define bio-fertilizers and explain different bio-fertilizers with examples.
b) Explain how nitrogen fixation takes place in soil?
- Q.8 a) Give the classification of agrochemicals with examples.
b) Discuss about losses during storage and handling of Farm Yard Manure.
- Q.9 a) Explain the roles of different plant growth regulators.
b) Write short note on NADEP method of composting.
- Q.10 a) Give classification of fungicides with examples.
b) Illustrate the carbon cycle.

SECTION "B"

- Q.11 Define the following terms:

- | | |
|--------------------|--------------------|
| 1) Poudrette | 2) Compost |
| 3) Herbicides | 4) Chelate |
| 5) Denitrification | 6) Vermicompost |
| 7) Acaricide | 8) Chemosterilants |

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Q.12 Do as directed:

- 1) Name two edible and non-edible oil cakes.
- 2) Give two examples of fungicides.
- 3) State two examples of herbicides.
- 4) Name two species of Earthworms used for vermicomposting.
- 5) Give two examples of amide fertilizers.
- 6) What are the C : N ratios of soil and micro organisms.
- 7) State two agrochemicals regulations.
- 8) State two micro nutrient fertilizers.

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MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION



B.Sc. (Agri.)

Semester : IV(New)	Term : II	Academic Year : 2009-10
Course No. : SSAC 243	Title : Manures, Fertilizers and Agrochemicals	
Credits : 3(2+1)	Time : 14.00 to 17.00	Total Marks : 80
Day & Date : Tuesday, 27.4.2010		

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1. Solve ANY FIVE questions from SECTION "A".
2. All questions from SECTION "B" are compulsory.
3. All questions carry equal marks.
4. Draw neat diagrams wherever necessary.

SECTION "A"

- What do you understand by organic recycling? State the chemical and elemental composition of undecomposed organic matter.
- What are the improved methods of FYM preparation? Explain trench method of preparation of FYM.
- Define and classify bulky and concentrated organic manure and write down their position.
- Define Vermicomposting and write down the procedure for preparation of vermicompost.
- Q.3 a) What do you mean by complex fertilizer? Write down the characteristics and advantages of complex fertilizer.
- b) Enlist different methods of preparation of compost and explain Bangalore method of preparation of compost.
- Q.4 a) Define green manuring? What are the types of green manuring and state the advantages and disadvantages.
- b) Define fertilizers. Classify the nitrogenous fertilizers and write down in detail management of nitrogenous fertilizers.
- Q.5 a) Define bio-fertilizers? Write down in detail the symbiotic and non-symbiotic nitrogen fixation.
- b) What do you mean by Agro-chemicals and write down the classification of pesticides.
- Q.6 a) Define plant growth regulators and write down the classification of phytohormones.
- b) Write down in detail classification of fungicides.
- Q.7 a) Write down the general classes of herbicides and general mode of action of herbicides.
- b) Write short notes on (Any two):
- a) Handling and storage of fertilizers
 - b) Carbamate insecticides
 - c) Synthetic pyrethroids

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SECTION "B"

Q.8 Define the followings :

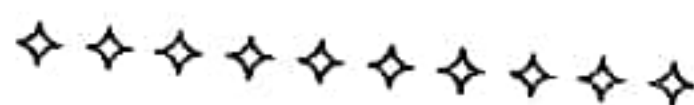
- | | | |
|---------------------|---------------|---------------------|
| 1) FYM | 2) Compost | 3) Sludge |
| 4) Sewage | 5) Poudrette | 6) Natural chelates |
| 7) Herbicides | 8) Inhibitors | 9) Fungicides |
| 10) Chemosterilants | | |

Q.9 Select an appropriate word and correct it :

- 1) Example of potassic fertilizer obtained as by product of marine salt work is carralite / shoenite / sylvinite.
- 2) Calcium cyanamide is an example of ammonical / nitrate / amide fertilizer.
- 3) *Anabaena azolla* fixes atmospheric nitrogen in the range of 100-150 kg ha⁻¹ year⁻¹.
- 4) K₂O content of biogas slurry is 1.1 to 2.0 / 0.8 to 1.2 %.
- 5) Example of defoliant is sodium chlorate / methyl bromide.
- 6) *Derris elliptica* pyrethrin is derived from the dried flowers of chrysanthemum / rose.
- 7) Polychloroterpene is the organochloride / organophosphate insecticide.
- 8) Substances that drain moisture out of plants causing them to dry are called Dessicants / defoliant.
- 9) Group of compounds that induce elongation in shoot cells is Auxins / Gibberallins.
- 10) Ethylene / cytokinins induce uniform ripening in fruits.

10 Answer to the points:

- 1) Name two edible and non-edible oil cakes.
- 2) Write down the significance of C:N ratio.
- 3) Give two examples of zoocides.
- 4) Write down the occurrence of pyrethrum.
- 5) State two examples of carbamates.



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B.Sc. (Agri.)

Semester : IV (New)	Term : II	Academic Year : 2012-13
Course No. : SSAC 243	Title : Manures, Fertilizers and Agrochemicals	
Credits : 3 (2+1)		
Day & Date : Tuesday, 23.04.2013	Time : 14.00 to 17.00	Total Marks : 80

- 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 diagrams wherever necessary.

SECTION "A"

- Q.1 a) Define organic recycling. Enlist the significance of C:N ratio.
b) Differentiate between bulky and concentrated organic manures.
- Q.2 Write short notes on (Any Four)
- | | |
|--|-----------------------|
| 1) Fish meal | 2) Vermicompost |
| 3) Poudrette | 4) Ammonium nitrate |
| 5) Losses during handling and storage of FYM | 6) Complex fertilizer |
- Q.3 a) Define FYM. Enlist the improved methods of preparation of FYM. Explain Trench method of preparation of FYM.
b) Define composting. Explain Indore method of composting in detail.
- Q.4 a) Define green manuring. Explain decomposition of green manuring in soil.
b) Define fertilizers. Classify the nitrogenous fertilizers with one example each.
- Q.5 a) Define Micro-nutrient. Write down the classification of micro-nutrient fertilizers.
b) Write down in detail handling and storage of N, P and K fertilizers.
- Q.6 a) Define bio-fertilizers. Write down in detail the symbiotic and nonsymbiotic nitrogen fixation.
b) Classify the phosphatic fertilizers. Write down in detail management of phosphatic fertilizers.
- Q.7 a) Explain in detail plant originated insecticides.
b) Write down the classification and properties of potassic fertilizers.
- Q.8 a) Give the classification and mode of action of organochloride insecticides.
b) Define phytohormones and give the classification of phytohormones.
- Q.9 a) Explain in detail the mode of action of herbicides.
b) What do you mean by insecticide act?
- Q.10 a) Define pesticide. Give the classification of pesticides in detail along with examples.
b) Write down the reaction of micro-nutrient in soil.

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SECTION "B"

Q.11 Define the following terms.

- | | |
|--------------------|-------------------|
| 1) Chelate | 2) Inhibitors |
| 3) Chemosterilants | 4) Ammonification |
| 5) Sewage | 6) Sludge |
| 7) Fungicides | 8) Defoliants |

Q.12 Do as directed.

- 1) Name the two crops grown under green-manuring in situ.
- 2) State two examples of herbicides.
- 3) State the main objective of insecticides act passed by the Government of India.
- 4) State two examples of hygroscopic fertilizers.
- 5) Give two examples of Zoocides.
- 6) State the two examples of carbamates.
- 7) Name two edible and non edible oil cakes.
- 8) What is the C:N ratios of soil and micro-organisms.

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SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : IV (New)	Term : II	Academic Year : 2013-14
Course No. : SSAC 243	Title : Manures, Fertilizers and Agrochemicals	
Credits : 3 (2+1)		
Day & Date : Saturday, 03.05.2014	Time : 14.00 to 17.00	Total Marks : 80

- 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 diagrams wherever necessary.

SECTION "A"

- Q.1 a) Define herbicides and give classification of herbicides based on the chemical nature with suitable example.
b) Define organic recycling. Give the significance of C:N ratio in detail.
- Q.2 a) Give in detail regarding Bangalore method of composting and enlist the factors affecting process of composting.
b) Give the classification of Phosphatic fertilizers along with suitable example and give the characteristics of monocalcium phosphate.
- Q.3 a) Enlist the secondary nutrient fertilizers with suitable examples. Discuss the fate of micronutrients in soil.
b) Define plant growth regulators. Give in detail regarding the Agrochemicals with special effects.
- Q.4 a) Give the classification of concentrate organic manures with suitable examples. Enlist the factors affecting manorial value and decomposition of oil cakes.
b) Define pesticide. Give in detail regarding carbamate insecticides.
- Q.5 a) Give the characteristics and advantages of complex fertilizers.
b) Define vermicompost. Explain the pit method of vermicomposting in detail.
- Q.6 a) Define fungicide. Give the structure and properties of organosulphur fungicides.
b) Define Fertilizer. Give the manufacture process of calcium ammonia nitrate in detail.
- Q.7 a) Define Biofertilizers and give its significance in agriculture.
b) Mention the mode of action of Pyrethrum and properties of Hexachlorocyclohexane (HCH).
- Q.8 a) Define Chemosterilants. Give the classification of synthetic organic insecticides with suitable examples.
b) Enlist the steps in the developments of pesticides.
- Q.9 a) Discuss the losses during handling and storage of farm yard manure.
b) Give the properties and manufacture process of urea.
- Q.10 Write short notes on (Any Four)
- | | |
|---------------------------------------|------------------|
| 1) Management of Potassic fertilizers | 2) NADEP method |
| 3) Pyrethrum | 4) Indore method |
| 5) Insecticidal Act | 6) Nicotine |

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SECTION "B"

Q.11 Match the pairs.

"A"

- 1) Bone meal
- 2) Quinone
- 3) Ammonium phosphate
- 4) Vapam
- 5) Gibbreline
- 6) Waxes
- 7) Thiodan
- 8) Saw dust

"B"

- a) Paraquat
- b) Undecomposed organic matter
- c) Gibbane structure
- d) Endosulphan
- e) 400:1 (C:N)
- f) 52% P_2O_5
- g) Dithiocarbamate
- h) 22% P_2O_5

Q.12 Define the following terms.

- 1) Chelate
- 2) Defoliant
- 3) Sludge
- 4) Green manuring crops
- 5) Denitrification
- 6) Rodenticide
- 7) Sewage
- 8) Molluscicide



MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : IV (New)	Term : II	Academic Year : 2014-15
Course No. : SSAC 243	Title : Manures, Fertilizers and Agrochemicals	
Credits : 3 (2+1)		
Day & Date : Friday, 15.05.2015	Time : 14.00 to 17.00	Total Marks : 80

- 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 diagrams wherever necessary.

SECTION "A"

- Q.1 a) Define organic recycling. Which organic sources are used for organic recycling?
b) Define C:N ratio. Write down significance of C:N ratio in agriculture.
- Q.2 a) Explain the improved methods of FYM preparation.
b) What is composting? Write in detail factors affecting composting.
- Q.3 a) Differentiate between bulky and concentrated organic manures.
b) Enlist secondary nutrient and write down classification of micronutrient fertilizer with suitable examples.
- Q.4 a) Define green manuring and explain its advantages and disadvantages.
b) Classify pesticides with suitable examples.
- Q.5 a) Write short note on Sewage and sludge.
b) Explain in detail about methods of fertilizer application.
- Q.6 a) Define fertilizers. Classify the phosphatic fertilizers with examples.
b) Define insecticide. Write about plant originated insecticide Nicotine and Pyrethrum.
- Q.7 a) Define bio-fertilizers and explain different bio-fertilizers with examples.
b) Explain how symbiotic nitrogen fixation takes place in soil.
- Q.8 a) Give the classification of agrochemicals with examples.
b) Write down properties and manufacturing process of Urea.
- Q.9 a) Explain role of different plant growth regulators.
b) Write short note on NADEP method of composting.
- Q.10 a) Give classification of fungicides with examples.
b) Define Herbicide. Give Classification based on mode of action with suitable example.



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SECTION "B"

Q.11 Define the following terms.

- | | |
|--------------------|--------------------|
| 1) Poudrette | 2) Compost |
| 3) Herbicides | 4) Chelate |
| 5) Denitrification | 6) Vermicompost |
| 7) Acaricide | 8) Chemosterilants |

Q.12 Do as directed.

- 1) Name one edible and one non-edible oil cakes.
- 2) Give two examples of fungicides.
- 3) State one example of herbicides.
- 4) Name two species of Earthworms used for vermicomposting.
- 5) Give one example of amide fertilizers.
- 6) What are the C: N ratio of soil and saw dust.
- 7) State two agrochemicals regulations.
- 8) State two examples of chelates.

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