

BDV

2007
AGRICULTURE - II (Optional)

100312

Standard : Degree

Total Marks : 200

Nature : Conventional

Duration : 3 Hours

Note :

- (i) Answers must be written in **English** only.
- (ii) Question No. 1 is **Compulsory**. Of the remaining questions, attempt **any four** selecting one question from **each** section.
- (iii) Figures to the **RIGHT** indicate marks of the respective question.
- (iv) Number of optional questions upto the prescribed number in the order in which they have been solved will only be assessed. Excess answers will not be assessed.
- (v) Credit will be given for orderly, concise and effective writing.
- (vi) Candidate should not write roll number, any name (including their own), signature, address or any indication of their identity anywhere inside the answer book otherwise he/she will be penalised.
- (vii) For each slab of 10, 15 and 20 marks, the examinee is expected to write answers in 125, 175 and 250 words respectively.

1. Answer **any four** of the following (10 Marks each) :

40

- (a) "With many MNCs entering seed industry PVPFR 2002 does not help the farmers in maintaining their rights on their seeds" - comment.
- (b) (i) What are Biopesticides ? Describe in brief the nature, mode of action and uses of NPV and *Bacillus Thuringiensis*.
(ii) Define Toxins. How Toxin differ from Antibiotics ? Name three myco and two bacterial toxins.
- (c) What will be the effect on Indian agriculture, when the farmers are encouraged to grow more of commercial crops than grain crops because of the demand or economics of cultivation ?
- (d) How farmers can be helped more with the available remote sensing satellites ? How the efficiency of the remote sensing increased for helping Indian agriculture ?

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- (e) Give meaning of Co-operation. Discuss the principles of Co-operation according to the International Co-operative Alliance. Discuss the role of Co-operatives in Agricultural Development of Maharashtra. Marks

SECTION - A

2. Answer the following sub-questions :
- (a) Describe regulation of cell division in eukaryotes. 15
- (b) "Effective breeding for disease resistance depends on a uniform spread of the disease in the breeding material". Discuss. 10
- (c) Describe how the photosynthetic efficiency can be genetically increased in crops. 15
3. Answer the following sub-questions :
- (a) Describe different types of inversions. How inversions helped in species diversification in animals ? Write with examples. 15
- (b) How BTT helps in maintaining genetic male sterility in barley ? 10
- (c) How C_4 plants are more adaptable to high temperature environments ? What have been the efforts to transfer this ability to C_3 plants ? 15

SECTION - B

4. Answer the following sub-questions :
- (a) (i) Define Diseases and classify them on the basis of their occurrence. 5
- (ii) Describe different types of models used for fore-casting plant diseases with suitable examples. 5
- (b) (i) Define Eradication. Describe in brief four methods employed for eradication of pathogen from the farmers field. 5
- (ii) How Biological control of diseases is helpful to minimize the health hazards ? Discuss in brief with suitable examples. 5
- (c) (i) Name storage pests of pulses. How storage pests can be managed to minimize the losses with special reference to Maharashtra farmer's living conditions ? 5
- (ii) How Integrated Pest Management (IPM) is effective over sole management in minimizing the losses ? Discuss in brief. 5

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| (d) | (i) | Name insect pests of Sorghum and losses caused by them in Maharashtra. 5 |
| | (ii) | Brinjal being the important crop of Maharashtra is infested by Nematodes. Name three species of root-knot nematode which infect Brinjal. How root knot nematode can be managed economically ? 5 |
| 5. Answer the following sub-questions : | | |
| (a) | (i) | Write symptoms, transmission and management of Bunchy Top of Banana. 5 |
| | (ii) | Differentiate four smut causing fungi of Sorghum on the basis of symptomatology. 5 |
| (b) | (i) | Differentiate between Avoidance and Exclusion. 5 |
| | (ii) | Define Quarantine. Write the Quarantine Stations located on Sea and Land in India. 5 |
| (c) | (i) | Name important pests of pulses and oilseed crops. 5 |
| | (ii) | Write opinion upon scope and limitation of Biological control of insect pests. 5 |
| (d) | (i) | Name major Nematodes of cereal crops alongwith losses caused by them. 5 |
| | (ii) | Write the major orders of Phylum - Arthropodes insects which act as pests on Agricultural crops. 5 |

SECTION - C

- 6. Answer the following sub-questions :**
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| (a) | "Many of the world leaders are of the opinion that recent food crisis is attributable to shift in the food consumption pattern in India". Discuss. 10 |
| (b) | List important breeds of goats of India along with their important characteristics. What important steps have been taken/should be taken to improve these breeds ? 15 |
| (c) | "Introduction of BT cotton has not lessened the usage of pesticides in Cotton". Discuss and provide possible remedies. 15 |
- 7. Answer the following sub-questions :**
- | | |
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| (a) | "Introduction of genetically modified crops like golden rice is not a solution to solve malnutrition problem in India". Discuss. 10 |
| (b) | "The productivity of the Indian cattle can be increased by more rational nutrition management". Comment with some examples. 15 |
| (c) | Explain the relationship between risk to human health and recombinant DNA technology with special reference to planned experiments. How government tries to regulate the same using legislation ? 15 |

SECTION - D

8. (a) Give answer accordingly : 15
- (i) What are various system of farming prevail in Maharashtra state ? Give characteristics of these farming systems.
 - (ii) What are the advantages of farm planning ?
 - (iii) Describe the various marketing agencies involve in marketing process.
 - (iv) Enlist problems involved in agricultural marketing in India.
 - (v) Draw a Chart for channels of milk marketing in Maharashtra.
- (b) Give answer accordingly : 15
- (i) What is the role of Extension Education in developing countries ?
 - (ii) What is evaluation ? Explain various criteria for effective evaluation for evaluation of extension programme.
 - (iii) Which type of variables are included in socio-economic survey ?
 - (iv) What is communication ? Explain the type of organisational communication.
 - (v) Classify teaching method according to use of teaching aids. Give one example for each.
- (c) Give answer accordingly : 10
- (i) When Lab to Land Programme was started and what are the objectives of Lab to Land programme ?
 - (ii) What is ATMA ? Draw its organisational structure ?
 - (iii) When Integrated Rural Developments Programme started and what are the objective of this programme.
 - (iv) What is Kissan Call Center ?
 - (v) What are the sources of Agricultural Technology Information ?
9. (a) Give answer accordingly : 15
- (i) What are the characteristics of good farm plan ?
 - (ii) What are the objectives of farm management ?
 - (iii) Give suggestions to overcome the problems of Agricultural marketing.
 - (iv) What are different types of farm budget ? Give importance of each type of budget.
 - (v) What are the activities of NAFED ?

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- (b) Give answer accordingly : **Marks**
15
- (i) What are the objectives of K V K ?
 - (ii) How can ATIC - Agricultural Technology Information Centre working as a single window system organisation ?
 - (iii) What is the importance of mass media in extension education ?
 - (iv) What are the elements of communication ? Explain in brief.
 - (v) What are the mandate of K V K ?
- (c) Give answer accordingly : **10**
- (i) Which is the main agency behind Kissan Call Center and what are its objectives ?
 - (ii) What are the objectives of ATMA ?
 - (iii) Who was the targeted group in Integrated Rural Development Programme ?
 - (iv) Give brief idea of Agri-clinic concepts. What are the prospects of Agri-clinic ?
 - (v) What is the role of private agencies in agricultural extension ?

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