B.Sc. (Ag.) Honours Semester-VI Examination, 2019

Course No: AGR-321 (Farming Systems and Sustainable Agriculture)

Signature of Centre Superintendent

Roll No. : (in figure) _____ (in words) _____

Student Index No. _____ Regn. No. _____ of _____

Time : 2 Hours **Full marks : 40**

Questions are of value as indicated in the margin

Part - I
(Objective and Short Answer Type)
(Use only ball point pen)

Time : 20 minutes **Full marks : 10**

Note: 1. Answer in question paper itself.
2. Striking, rewriting or overwriting are not allowed in the objective type questions.

1. **Tick (√) the right answer:** 0.5×7=3.5
   (a) Scientific name of mulberry silkworm is (i) *Philosamia ricini* (ii) *Antheraea mylitta* (iii) *Bombyx mori* (iv) *Antherarea assami*
   (b) Gross cultivated area in India is - (i) 160 mha (ii) 195 mha (iii) 260 mha (iv) 310 mha
   (c) Indigenous carp _____ is the middle feeder in feeding habit. – (i) catla (ii) rohu (iii) mrigale (iv) none of these.
   (d) The cultivation of trees, crops and fish simultaneously is known as – (i) Agri-silviculture (ii) Aqua-Silviculture (iii) Agri-Silvi-aquaculture (iv) Agri-Silvi-pastoral.
   (e) For successful fish production the pH of water should be in the range of – (i) 4.5 – 5.5 (ii) 5.5 – 6.5 (iii) 6.5 – 7.5 (iv) 7.5 – 8.5.
   (f) Sowing of succeeding crop in standing crop may be known as – (i) relay intercropping (ii) overlapping cropping (iii) relay cropping (iv) none of these.
   (g) Scientific name of Italian species of honey bee is – (i) *Apis dorsata* (ii) *Apis mellifera* (iii) *Apis indica* (iv) *Apis drosofila*.

2. **Fill in the blanks:** 0.5×7=3.5
   (a) Gross and net irrigated area in India is _____ mha and _____ mha respective by.
   (b) Scientific name of "Oyster" mushroom is _____.
   (c) WCED defined 'sustainable development' in the year _____.
   (d) _____ is the fungal fruiting body technically known as "sporophore".
   (e) _____ is a process of harnessing solar energy in the form of economic plant and animal products.
   (f) _____ crop may be used for soil and water conservation.
   (g) Rice cultivation with fishery, poultry, piggery, capture fishes are the main components of farming system under _____ region.

3. **State True (T) or False (F) for the following statements:** 0.5×6=3
   (a) Organic farming is an example of low external input agriculture. ☐
   (b) "Permaculture" is not a sustainable agriculture system. ☐
   (c) Scientific name of "Button" mushroom is *Volvariella volvacea*. ☐
   (d) Honeybees are popularly known as "angles of agriculture". ☐
   (e) Animal enterprise is a sub-system of farming system. ☐
   (f) Lucern is a winter growing annual leguminous fodder crop. ☐

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Part - II
(Descriptive Type)

Time : 100 minutes **Full marks : 30**

Questions are of value as indicated in the margin

Answer ***any three*** questions

4. Define "farming system". Write in short about the principles and components of farming systems. Write briefly about a model of integrated farming system for wetland. 1+2+3+4=10

5. Define "Wasteland". Write briefly about the objectives of wasteland reclamation. Write in short about the developmental strategies of wasteland. 1+2+7=10

6. What is sustainable agriculture? What are the attributes of the concept of sustainability? Highlight the problems of modern agriculture with regards to environmental and social impacts with regards to environmental and social impacts and ways to overcome these problems. 1+4+5=10

7. Write short notes on ***any four*** of the following: 2.5×4=10
   (a) Wind erosion.
   (b) Conservation of natural resources.
   (c) Low External Input Agriculture.
   (d) Bio-gas.
   (e) Conservation of energy.
   (f) Improved fallow in shifting agriculture.
   (g) Chemical degradation.
   (h) Apiculture.

8. Explain briefly ***any five*** of the following: 2×5=10
   (a) Irrigation with high sodium containing water.
   (b) Shelterbelt
   (c) Aquaculture
   (d) Physical degradation
   (e) Water harvesting
   (f) Sustainable yield index
   (g) Stubble mulching
   (h) Taungya cultivation

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