

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : VI (Old)	Term : II	Academic Year : 2018-19
Course No. : AGRO 3610	Title : Farming Systems and Sustainable Agriculture	
Credits : 2 (1+1)		
Day & Date : Thursday, 09.05.2019	Time : 14.00 to 16.00	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 diagrams wherever necessary.

SECTION "A"

- Q.1 Explain in brief about multiple cropping.
- Q.2 What is farming system? Classify different farming systems.
- Q.3 Explain Alternate Land Use System (ALUS).
- Q.4 Describe the objectives of farming systems.
- Q.5 Write the determinants of farming system and their influence on makeup of farming system.
- Q.6 What is sustainable agriculture? Specify its goals and enlist the elements of sustainability.
- Q.7 Give reclamation measures for saline and alkaline soils.
- Q.8 Discuss factors affecting the ecological balance and sustainability of agricultural resources in brief.
- Q.9 Define organic farming. Give its principles.
- Q.10 Write short notes (Any Two).
- a) Relative Yield Total
 - b) Cropping Intensity Index
 - c) Cultivated Land Utilization Index

SECTION "B"

- Q.11 Define the following terms.
- 1) Integrated farming systems
 - 2) Relay cropping
 - 3) Cropping pattern
 - 4) Agro-forestry
- Q.12 Match the following pairs.
- | | |
|----------------|-----------------------|
| 'A' | 'B' |
| 1) Poultry | a) Rohu |
| 2) Sericulture | b) Gir |
| 3) Dairy | c) White leg horn |
| 4) Aquaculture | d) <i>Bombyx mori</i> |

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MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : VI (Old)	Term : II	Academic Year : 2018-19
Course No. : AGRO 3611	Title : Organic and Rainfed Farming	
Credits : 2 (1+1)		
Day & Date : Friday, 03.05.2019	Time : 14.00 to 16.00	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 diagrams wherever necessary.

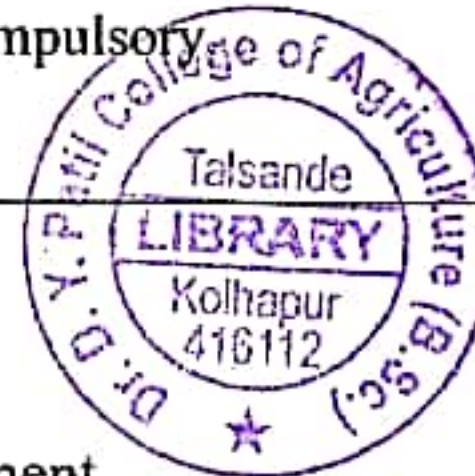
SECTION "A"

- Q.1 Define organic farming and give its advantages.
- Q.2 Explain in detail principles of watershed management.
- Q.3 What is organic certification? Discuss in brief the different standards in organic farming.
- Q.4 Define drought and classify it on the basis of source of water availability.
- Q.5 Explain in brief Integrated Pest Management(IPM) by using bio-control agents in organic farming.
- Q.6 Define green manuring. Write down the characteristic of an ideal green manure crop. Give its advantages.
- Q.7 Suggest contingency crop planning under different aberrant weather condition.
- Q.8 Define rainfed farming and explain its characteristic.
- Q.9 Explain various agronomic management practices for soil and water conservation in rainfed farming.
- Q.10 Write short notes (Any Two).
 - a) Organic recyclable wastes
 - b) Bio-fertilizers
 - c) Constraints of organic farming

SECTION "B"

- Q.11 Do as directed.
 - 1) Give example of reflectant type of anti-transpirants.
 - 2) What should be slope for bench terracing?
 - 3) Give full form of IFOAM.
 - 4) Broad Bed Furrow (BBF) technology is advocated for which field crops.
- Q.12 Fill in the blanks.
 - 1) _____ bunding is suitable for moisture conservation in low rainfall area.
 - 2) Growing of two or more crops on same piece of land with distinct row pattern is called _____.
 - 3) NWDPR stands for _____.
 - 4) _____ is an example of growth retarding anti-transpirants.

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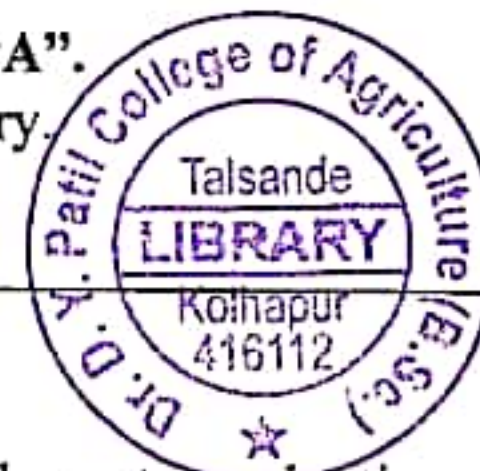


B.Sc. (Agri.)

Semester : VI (Old)	Term : II	Academic Year : 2018-19
Course No. : ASDS 364	Title : Sheep and Goat Production	
Credits : 2 (1+1)		
Day & Date : Friday, 10.05.2019	Time : 14.00 to 16.00	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 diagrams wherever necessary.



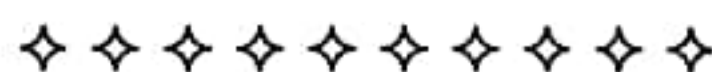
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SECTION "A"

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- Q.1 Describe in short about the importance of sheep and goat production in national economy.
- Q.2 Define culling? Which important points should be considered for culling of sheep and goat?
- Q.3 Explain in short various methods of breeding used for improvement of goat and sheep.
- Q.4 Write down in detail about the care and management of does and ewes.
- Q.5 Describe in brief about various methods of slaughtering.
- Q.6 Write short notes (Any Two).
- a) Signs of sick goat b) Flushing
- c) Deccani sheep
- Q.7 Enlist the feeding methods of sheep and goat. Describe in detail about tethering method.
- Q.8 Give vaccination schedule of sheep and goat for better health management.
- Q.9 Classify the Indian goats according to their utility with two examples. Write down the phenotypic characteristics of changthangi.
- Q.10 Enlist various important routine management practices of sheep and goat. Explain in details about docking.

SECTION "B"

- Q.11 Fill in the blanks.
- 1) _____ is the famous goat breed found in West Bengal.
 - 2) Act of mating in sheep is called _____.
 - 3) _____ breed of goat produce mohair.
 - 4) Sheep meat is called _____.
- Q.12 Define the following terms.
- 1) Dipping
 - 2) Spayed
 - 3) Ringing
 - 4) Creep feeding

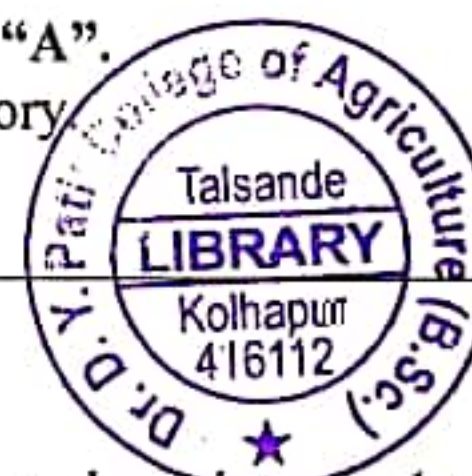


MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : VI (Old)	Term : II	Academic Year : 2018-19
Course No. : BOT 367	Title : Principles of Seed Technology	
Credits : 3 (2+1)	Time : 14.00 to 17.00	Total Marks : 80
Day & Date : Thursday, 02.05.2019		

- 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 Explain the causes of genetic deterioration of improved variety and enlist the important safeguards for avoiding it.
- Q.2 Define Seed quality. What are characters of good quality seed?
- Q.3 Define Seed certification and describe the objects and procedure of seed certification.
- Q.4 Describe in detail the hybrid seed production in rice pertaining to following points.
- a) Planting ratio
 - b) Isolation distance
 - c) Field inspection
 - d) Method of improving the seed setting in hybrid rice seed plot
- Q.5 What is Seed drying? Give the principle of forced air drying and explain how drying proceeds in seeds.
- Q.6 What is Seed processing? Enlist the important steps involved in seed cleaning and write down the principles of air screen cleaner.
- Q.7
- a) Explain the benefits and limitations of Plant Breeder Rights in India.
 - b) Explain the different stages of Seed multiplication / Seed classes.
- Q.8 What do you mean by Seed treatment? Give the advantages and types of Seed treatment.
- Q.9 Define Seed marketing. Describe marketing structure with suitable diagram illustrating central marketing cell.
- Q.10 Write short notes (Any two).
- a) Role of Seed Technology
 - b) Field Inspection
 - c) Objectives of National Seed Corporation

(P.T.O.)

SECTION "B"

Q.11 Define the following terms.

- | | |
|--------------------|-----------------|
| 1) Pollen shedders | 2) Seed health |
| 3) Carry over seed | 4) Variety |
| 5) A line | 6) Seed vigour |
| 7) Grow out test | 8) Detasselling |

Q.12 a) Give full forms of the following.

- | | |
|-----------|----------|
| 1) ISTA | 2) AOSCA |
| 3) PPVFRA | 4) CSCB |

b) Fill in the blanks.

- 1) In Indian seed quality control system, certification is voluntary and labeling is _____.
- 2) Stage I foundation seed is the progeny of _____ seed.
- 3) Normally marker plants are used to identify the _____ rows.
- 4) Grow out test is must for hybrids of _____ crop.

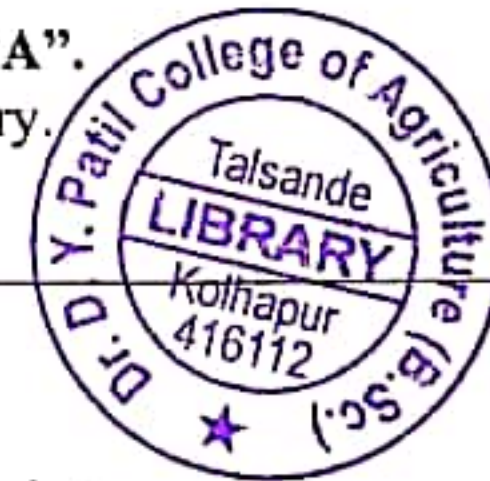


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B.Sc. (Agri.)

Semester : VI (Old)	Term : II	Academic Year : 2018-19
Course No. : ECON 365	Title : Agri.-Business Management	
Credits : 2 (1+1)	Time : 14.00 to 16.00	Total Marks : 40
Day & Date : Saturday, 04.05.2019		

- 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 What is corporation? Explain major attraction of corporation.
- Q.2 Define Agri-business and explain different sectors of Agri-business.
- Q.3 Write in short about market segmentation and methods of market.
- Q.4 Explain types of plan and planning process.
- Q.5 What is need of Agro-based industries? Enlist types of agro-based industries.
- Q.6 Define marketing and explain different concepts of marketing.
- Q.7 Define Balance Sheet. Write importance of financial statement.
- Q.8 Enlist objectives of directing and explain personal management.
- Q.9 Explain the general partnership.
- Q.10 What is market mix? Explain the 4 Ps of marketing.

SECTION "B"

- Q.11 Define the following terms.

- | | |
|-------------------|------------------------|
| 1) Responsibility | 2) Sole proprietorship |
| 3) Project | 4) Motivation |

- Q.12 Fill in the blanks.

- 1) _____ is a discounting factor at which NVP is zero or BCR is equal to one.
- 2) _____ is the skeleton or framework on which management is built.
- 3) "Maslow's hierarchy need theory" is theory of _____.
- 4) _____ is a person who willing to accept the responsibility for changes and become the catalyst for action.

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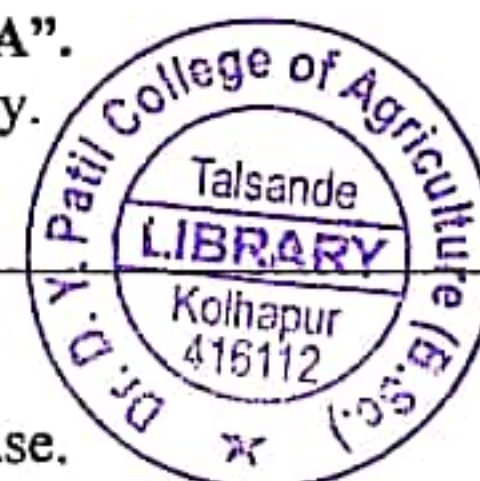
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MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : VI (Old)	Term : II	Academic Year : 2018-19
Course No. : ENGG 364	Title : Protected Cultivation and Post-harvest Technology	
Credits : 2 (1+1)		
Day & Date : Tuesday, 07.05.2019	Time : 14.00 to 16.00	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 diagrams wherever necessary.



SECTION "A"

- Q.1 What is greenhouse? Explain the advantages of greenhouse.
- Q.2 Enlist the different types of cooling systems used in greenhouse? Explain in detail fan and pad cooling system.
- Q.3 What are different irrigation systems in greenhouse? Explain in detail drip irrigation system.
- Q.4 Enlist the covering material used for greenhouse. State the properties of an ideal greenhouse covering material.
- Q.5 Determine the total energy required to raise the dry clay soil temperature from 40°C to 82°C in a effective area of 0.2 ha up to a depth of 0.6 m for 30 min. Assume density of root media = 1458 kg/m³, specific heat (Cp) = 880 J/kg°C.
- Q.6 What is cleaning? Describe spiral separator.
- Q.7 What is drying? Discuss L.S.U. dryer.
- Q.8 Enlist different types of storage structures for food grains. Describe bukhari structure.
- Q.9 Discuss working of Hammer mill with neat sketch.
- Q.10 Give object of grading? Discuss any equipment used for grading of fruits on basis of size.

SECTION "B"

- Q.11 State True or False.
- 1) Spiral separator separates grains on the basis of size.
 - 2) L.S.U. dryer is non-mixing continuous type dryer.
 - 3) Grading is a classification on the basis of commercial value of product.
 - 4) In shallow bed drying, the depth of grain is less than 20 cm.
- Q.12 Match the following pairs.
- | 'A' | 'B' |
|--------------------|--------------------------|
| 1) Hammer mill | a) Protected cultivation |
| 2) Baffle dryer | b) Size reduction |
| 3) Inclined draper | c) Moisture removal |
| 4) Shed net house | d) Grain separation |

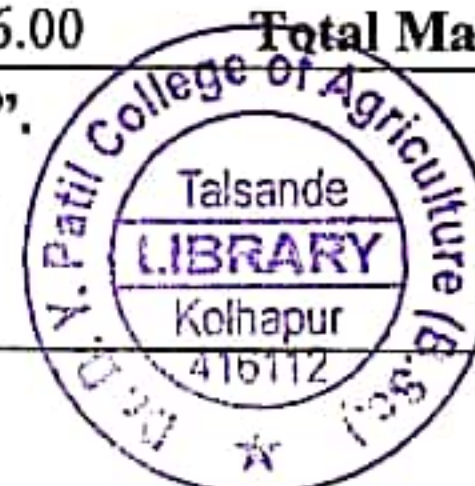
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MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : VI (Old)	Term : II	Academic Year : 2018-19
Course No. : ENTO 364	Title : Introductory Nematology	
Credits : 2 (1+1)		
Day & Date : Saturday, 11.05.2019	Time : 14.00 to 16.00	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 diagrams wherever necessary.



SECTION "A"

- Q.1 Draw neat labeled diagram and give brief account of female reproductive system.
- Q.2 Describe characteristics of plant parasitic nematodes.
- Q.3 Explain with neat labeled diagram the cuticular layers of adult phytonematode.
- Q.4 Write short notes (Any Two)
 - a) Dagger nematode in grapevine
 - b) *Rotylenchulus reniformis*
 - c) Population reduction
- Q.5 Enlist different methods of nematode management and describe physical method.
- Q.6 State general characters, symptoms and management practices of RKN.
- Q.7 Define nematode. Classify the nematodes on the basis of feeding habit with example.
- Q.8 Write general characters, symptoms and management practices of citrus nematode.
- Q.9 Write historical development of phytonematology in India.
- Q.10 What is EPN? State the desirable characters of EPN.

SECTION "B"

- Q.11 Fill in the blanks.
 - 1) Mature female of root knot nematode is _____ shaped.
 - 2) _____ is the typical example of facultative parasitism.
 - 3) _____ is called Father of nematology.
 - 4) Seed gall nematode along with *Corynebacterium tritici* causes _____ disease in wheat.
- Q.12 Answer the following.
 - 1) Give function of spicule.
 - 2) State the region of nematode body that bears phasmids.
 - 3) What is pseudocoelom?
 - 4) Name the phylum of nematode.

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MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester	: VI (Old)	Term	: II	Academic Year	: 2018-19
Course No.	: EXTN 364	Title	: Entrepreneurship Development and Communication Skills		
Credits	: 2 (1+1)				
Day & Date	: Wednesday, 08.05.2019	Time	: 14.00 to 16.00	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 diagrams wherever necessary.

SECTION "A"

- 
- Q.1 Describe the characteristics of entrepreneur.
 - Q.2 Explain in detail factors affecting entrepreneurial behavior.
 - Q.3 Explain functions of advertisements.
 - Q.4 State the points to be considered for developing listening skills.
 - Q.5 Enlist the questions to be asked to consumers for market survey.
 - Q.6 Explain in detail internal and external motivating factors for entrepreneurship development.
 - Q.7 Describe the points to be considered in project description for the formulation of proposal.
 - Q.8 Explain SWOT analysis.
 - Q.9 Enlist different models of communication and explain in brief Leagans model of communication.
 - Q.10 What are the functions of Entrepreneurship Development Programme?

SECTION "B"

- Q.11 State two examples of the following.
 - 1) Service oriented advertisements
 - 2) Diary product oriented advertisement
 - 3) Audio-visual aids
 - 4) Projected visual aid
- Q.12 State True or False.
 - 1) Self confidence is the control over the things while working alone.
 - 2) The term entrepreneur was coined by Richard Gary.
 - 3) Entrepreneur is derived from German word.
 - 4) Advertising is a mass and paid communication.

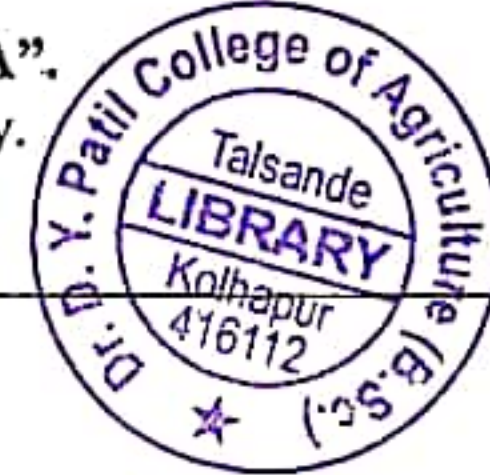
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MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Agri.)

Semester : VI (Old)	Term : II	Academic Year : 2018-19
Course No. : HORT 364	Title : Post-Harvest Management and Value	
Credits : 2 (1+1)	Addition of Fruits and Vegetables	
Day & Date : Monday, 06.05.2019	Time : 14.00 to 16.00	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 diagrams wherever necessary.



SECTION "A"

- Q.1 What do you mean by horticultural maturity? How will you judge the maturity of sapota and onion?
- Q.2 Define ripening. Describe in brief about important physic-chemical changes taking place during ripening.
- Q.3 Enlist the different methods of storage of fruits and vegetables. Write in brief about controlled atmospheric storage.
- Q.4 Discuss in brief about the importance and scope of postharvest technology with suitable examples.
- Q.5 Write the advantages of fruit and vegetable preservation.
- Q.6 Enlist different methods of pre-cooling. Discuss in brief room cooling with advantages and disadvantages.
- Q.7 State the agencies responsible for spoilage of food. Describe in brief enzymatic spoilage.
- Q.8 Explain in brief the points to be considered while selecting the site for fruit and vegetable processing unit.
- Q.9 Describe importance of packaging. Enlist different packaging materials with examples.
- Q.10 Write short notes (Any Two).
 - a) Accelerated ripening.
 - b) Transportation of fruits and vegetables
 - c) Harvesting

(P.T.O.)

SECTION "B"

Q.11 Fill in the blanks.

- 1) _____ means preventing the entry of micro organisms by maintaining general cleanliness.
- 2) Decomposition of carbohydrates by microorganism or enzymes is called _____.
- 3) Removal of field heat immediately after the harvest of fruits and vegetables known as _____.
- 4) _____ is accomplished to reduce the rate of respiration and to enhance product gloss.

Q.12 Define the following terms.

- | | |
|------------------|------------|
| 1) Sterilization | 2) Cordial |
| 3) Degreening | 4) Curing |

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