G O A C O L L E G E O F A G R I C U L T U R E

Affiliated to Goa University

B. Sc. (Hons.) Agriculture

Midterm Examination

Academic Year: 2024-25 **Semester: VI**

Course No.: AGRO-3612 **Course Title: Geo-informatics and Nano-technology and Precision Farming**

Total marks: 30 (Section 'A'- 15 marks + Section 'B'- 15 marks)

Time: 9.30 to 10.50 a.m (Section 'A'- 20 min & Section 'B' – 1.0 hr)

Date: 22/02/2025 **Roll No:**

Note: 1) Use of laptop, mobile, smart watch is prohibited.

2) Draw neat labelled diagrams wherever necessary.

3) In Section 'A' all questions are compulsory.

4) Section 'A' should be answered in OMR sheet.

SECTION "A" (15Q x 1M =15 Marks)

Multiple choice questions

1. Precision farming means?

A. Application of inputs according to crop requirement on the localized basis.
B. Application of principles and technologies to manage spatial and temporal variability
C. Doing all practices in right place at right time and in right way
D. All of the above

2. Which of the following is the principle of precision farming?

A. Understanding the variability
B. Collection and analysis of the spatial and temporal data
C. Managing the variability with the site specific agronomic recommendation
D. All of the above

3. What is the main goal of precision farming?

A. Increasing labour use
B. Maximizing crop diversity
C. Optimizing resource use and crop productivity
D. Reducing technology in agriculture

4. Which technology is commonly used in precision farming?

A. Typewriters
B. Global Positioning System (GPS)
C. Landline telephones
D. Steam engines

P.T.O

5. In precision farming, VRT stands for:
   A. Variable Resource Technology
   B. Variable Rate Technology
   C. Virtual Rate Technology
   D. Verified Resource Technique

6. Precision farming helps in:
   A. Uniform application of inputs everywhere
   B. Site-specific input management
   C. Growing only traditional crops
   D. Eliminating the need for soil testing

7. Which of the following limits the implementation of precision farming in India?
   A. Large farm holdings
   B. Advanced digital infrastructure
   C. Fragmented and small landholdings
   D. High literacy rate among farmers

8. What does GIS stand for in Geo-informatics?
   A. Global Information System
   B. Geographic Information System
   C. General Information Software
   D. Geospatial Integrated System

9. Which of the following is NOT a tool used in Geo-informatics?
   A. GPS (Global Positioning System)
   B. Remote Sensing (RS)
   C. Typewriter
   D. GIS Software

10. Geo-informatics primarily used for:
   A. Precision farming
   B. Crop Monitoring and Yield Prediction
   C. Soil Management
   D. All of these

11. Which software is commonly used in Geo-informatics for spatial data analysis?
   A. ArcGIS
   B. QGIS
   C. Adobe Photoshop
   D. Both A & B

12. Which of the following technique is used for soil mapping?

P.T.O

A. Field Surveys & Soil Sampling
B. Remote Sensing
C. Soil sensors
D. All of these

13. What is crop discrimination?
A. Growing only one type of crop
B. Identifying and distinguishing different crops using remote sensing techniques
C. Applying fertilizers uniformly to all crops
D. Harvesting crops manually

14. Which of the following helps in crop discrimination through satellite imagery?
A. Soil texture only
B. Spectral reflectance of crops
C. Crop yield data only
D. Crop height measurement with a ruler

15. Yield monitoring helps farmers to:
A. Increase water wastage
B. Apply the same fertilizer dose everywhere
C. Identify high and low-yielding zones in the field
D. Reduce the need for modern machinery

SECTION "B"

Answer any five questions **(5 X 3 = 15 Marks)**

Q1. Define precision agriculture. Enlist its principles and Advantages.
Q2. Enlist the technologies used in precision farming and discuss the major challenges faced in its adoption in India.
Q3. Define Geo-informatics and describe the key tools and techniques used in this field.
Q4. What are the applications of Geo-informatics in precision agriculture?
Q5. Define Crop discrimination and enlist its methods. Which parameters are used in yield monitoring?
Q6. Write a brief note on Geospatial Technologies for Fertilizer Recommendation.

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GOA COLLEGE OF AGRICULTURE

Affiliated to Goa University

B. Sc. (Hons.) Agriculture
Midterm Examination

Academic Year: 2024-2025 **Semester: VI**

Course No.: AHDS 364 **Course Title: Sheep, Goat and Poultry Production**

Total marks: 30 (Section 'A'- 15 marks + Section 'B'- 15 marks)

Time: Section 'A'- 20 min & Section 'B' – 1.0 hr

Date: 22/02/2025 **Roll No:**

Note: 1) Use of laptop, mobile, smartwatch is prohibited.
2) Draw neat labelled diagrams wherever necessary.
3) In Section 'A' all questions are compulsory.
4) Section 'A' should be answered in OMR sheet.

SECTION "A"

Q1. Multiple choice questions **(15Q x 1M =15 Marks)**

1. Scientific name of Goat is ……..

A. *Capra hircus* B. *Ovis aries* C. *Capra aries* D. *Ovis hirus*

2. A State of India that has the highest Sheep population

A. Andhra Pradesh B. Rajasthan C. Telangana D. Maharashtra

3. The organism responsible for causing "Enterotoxaemia" is …….

A. Clostridium sp. B. Clostridium type D C. Clostridium type B D. E.coli

4. Chromosome number of Sheep is …….

A. 54 B. 60 C. 58 D. 62

5. Act of mating in Sheep is called as …….

A. Lambing B. Duping C. Tupping D. Serving

6. A castrated male sheep is called

A. Wither B. Wether C. Seggy D. Gimmer

7. Synonym for "Sore Mouth"

A. PPR B. Blue Tongue C. CCPP. D. FMD

8. Fat-tailed sheep is

A. Saanen B. Karakul C. Dumba D. Dorset

9. A male sheep castrated after service is called ……

A. Gimmer B. Wether C. Seggy D. Crone

10. ……. is the process of feeding pregnant animals with extra concentrates 3-4 weeks before delivery

A. Grading Up B. Flushing C. Steaming Up D. Crutching

11. The process of removing the entire wool from the male sheep is called ……..

A. Tagging B. Eyeing C. Ringing D. Wooling

12. The removal of wool around the vulva and perineal area for effective mating is called …….

A. Tagging B. Crutching C. Ringing D. Shearing

13. The term used for an adult female sheep is called ……

A. Doe B. Dam C. Ewe D. Sow

14. ……. is the practise of feeding solid diet to kids at the time of suckling

A. Selective feeding B. Creep feeding C. Compound feeding. D. Balanced feeding

15. …….... is a vasectomized ram used for estrus detection

A. Vaser Ram B. Wether Ram. C. Teaser Ram D. Seggy Ram

SECTION "B" **(5Q X 3M = 15 Marks)**

Answer any five questions

Q1. Care and management of new born kid

Q2. Define Flushing and give its importance

Q3. Brief on the feeding of adult goats

Q4. Brief about the viral diseases affecting Sheep and Goat

Q5. Classify Sheep breeds and give the important characteristic of any two goat breeds

Q6. Importance of Goat and Sheep in the national economy

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GOA COLLEGE OF AGRICULTURE

Affiliated to Goa University
T.Y.B. Sc. (Hons.) Agriculture
Midterm Examination

Academic Year: 2024-2025 **Semester: VI**
Course No: ECON 365 **Course Title: Farm Management, Production and Resource Economics**
Total marks: 30 (Section 'A'- 15 marks + Section 'B'- 15 marks)
Time: 9.30 to 10.50 a.m. (Section 'A'- 20 min & Section 'B' – 1.0 hr)
Date: 24/02/2025 **Roll No:**

Note:
1) Use of laptop, mobile, smart watch is prohibited.
2) Draw neat labelled diagrams wherever necessary.
3) In Section 'A' all questions are compulsory.
4) Section 'A' should be answered in OMR sheet

SECTION "A (15Q x 1M =15 Marks)

Multiple choice questions

1. The amount by which the values of the assets exceed the liabilities is the _____of the business.

A. Net Farm Income B. Net Worth C. Net Operating Income D. Net Cash Income

2. _____is a valuation method that appraisers and investors use to estimate the value of income-producing real estate.

A. Market Price B. Cost Price C. Net Selling Price D. Income Capitalization

3. The degree to which a business or activity yields profit or financial gain is _____

A. B:C Ratio B. Revenue C. Profitability D. Gross Income

4. _____are various types of "agricultural production in which multiple farmers run their holdings as a joint enterprise".

A. Cooperative B. Collective C. Peasant D. Capitalist

5. Situation of operating the farms when MR is > AVC but < ATC is common in _____

A. Handicrafts B. Textile C. Agriculture D. Business

6. The ratio of value of output to value of inputs is termed as _____ efficiency.

A. Technical B. Economic C. Allocative D. Physical

7. Net Capital Ratio is calculated by the formula Total Assets divided by total_____.

A. Income B. Receipts C. Loss D. Liability

8. A specialized farm is one on which _____or more receipts are derived from one enterprise.
A. 35% B. 40% C. 45% D. 50%

9. Farm management is defined as the science that deals with organization and operation of the farm in the context of efficiency and continuous profits was given by_____.
A. G. F. Warren B. Keynes C. Smith D. Efferson

10. _____is the procedure where the present value of the future income is determined.
A. Compounding B. Payback period C. Proceeds per rupee of outlay D. Discounting

11. Under _____system of farming, the farms are managed by government.
A. Peasant B. State C. Capitalist D. Natural

12. The _____cost is the value of best alternative forgone.
A. Average B. Explicit C. Opportunity D. Implicit

13. _____is a method of actual price paid for property when acquired, minus depreciation.
A. Cost less depreciation B. Net Selling Price C. Income capitalization D. Market price

14 _____ = (Total Revenue + Gains) – (Total Expenses + Losses)
A. Net Income B. Net Margin C. Net Profit D. Net Worth

15. _____is a type of livestock agriculture in which animals are left to graze on grasses in an enclosed pasture.
A. Mixed farming B. Grazing C. Ranching D. Diversification

SECTION "B"

Answer any five questions **(5Q X 3M = 15 Marks)**

Q1. Define the term Farm Inventory. Explain the methods of its Valuation.
Q2. State the term Income Statement. Give the ratios to prepare the results of the statement.
Q3. What is Farm record. Give its importance and enlist types of farm records and accounts.
Q4. Give meaning of the term Cost. Describe different types of costs.
Q5. Define the term Farm Management. Give its Scope and enlist the principles applied to it.
Q6. Explain in detail about types of farm business organization.

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GOA COLLEGE OF AGRICULTURE

Affiliated to Goa University

T.Y.B. Sc. (Hons.) Agriculture

MID-TERM EXAMINATION

Academic Year: 2024-25 **Semester: VI**
Course No.: ENGG 364 **Course Title: Protected Cultivation and Secondary Agriculture**
Total marks: 30 (Section 'A'- 15 marks + Section 'B'- 15 marks)
Time: 1:15-2:35 p.m (Section 'A'- 20 min & Section 'B' – 1.0 hr)
Date: 24/02/2025 **Roll No:**

Note: 1) Use of a laptop, Mobile, calculator, or smartwatch is prohibited.
2) Draw neat labelled diagrams wherever necessary
3) In the section "A" all questions are compulsory
4) Section "A" should be answered in the OMR sheet

SECTION "A"

(15Q x 1M= 15 Marks)

Multiple choice questions/Match the pairs

1. The percentage of carbon dioxide in the atmosphere is ……?

   A. 0.0345 % C. 435 %

   B. 345 ppm D. Both A & B

2. …… type of design is used when a greenhouse is placed against the side of an existing building.

   A. Lean-to C. Uneven span

   B. Even span D. Ridge and furrow

3. Visible and white light that is used for photosynthesis has a wavelength of ……

   A. less than 400 nm C. More than 700 nm

   B. 400 to 700 nm D. 500-800 nm

4. Ideally, greenhouse structures should be designed to resist ……. wind velocity

   A. 90 km/h C. 130 km/h

   B. 110 km/h D. 250 km/h

5. In Greenhouse, …… irrigation system is most traditional and uneconomical

   A. Hand watering C. Drip irrigation

   B. Overhead sprinklers D. Subsurface irrigation

6. This phenomenon of increase in the ambient temperature, due to the formation of the blanket of carbon dioxide is known as ……..

A. Ozone depletion C. Pollution effect

B. Greenhouse effect D. Acid formation

7. …… type of greenhouse is constructed on hilly terrain.

A. Even span C. Sawtooth

B. Uneven span D. Quensent

8. The light intensity is measured by the international unit known as…….

A. Lux C. Kcal/m2

B. Scandal D. KJ/m2

9. …….. are generally used for low-cost playhouses.

A. PVC pipes C. Wood and bamboo

B. S.S. D. RCC

10. ……is loss of water from the soil surface and from the leaves of the plants growing on it.

A. Evaporation C. Evaporation

B. Transpiration D. All

11. The wavelength of infrared radiation is

A. shorter C. infinite

B. longer D. zero

Match the pairs

	Column A		Column B
12	GH covering material	A.	Galvanized iron pipe
13	GH active cooling	B.	Polyester film
14	GH material for construction	C.	evaporative pad with fan system
15	Solar heating system	D.	Water and rock storage

SECTION "B"

Answer any five questions

(5Q X 3M = 15 Marks)

Q1. Explain the greenhouse effect principle in the greenhouse.

Q2. Classify & explain the types of greenhouses based on construction.

Q3. Write a note on plant response to the greenhouse environment.

Q4. Write a note on structural design criteria for the greenhouse structure.

Q5. Enlist various types of irrigation systems and explain sprinkler irrigation systems.

Q6. State the properties of the ideal greenhouse covering material.

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GOA COLLEGE OF AGRICULTURE

Affiliated to Goa University
T.Y.B. Sc. (Hons.) Agriculture
Midterm Examination

Academic Year: 2024-25 Semester: VI
Course No.: ENTO 365 Course Title: Management of Beneficial Insects
Total marks: 30 (Section 'A'- 15 marks + Section 'B'- 15 marks)
Time: 9.30 to 10.50 a.m. (Section 'A'- 20 min & Section 'B' – 1.0 hr)
Date: 25/02/2025 Roll No:

Note: 1) Use of laptop, mobile, smartwatch is prohibited.
2) Draw neat labelled diagrams wherever necessary.
3) In Section 'A' all questions are compulsory.
4) Section 'A' should be answered in OMR sheet.

SECTION "A"

(15Q x 1M =15 Marks)

Multiple choice questions/Match the pairs

1. Which of the following is adult disease

A. American Foul Brood B. Chalk brood C. Stone brood D. Nosema

2. Antenna in honey bee is……..

A. Geniculate B. Filiform C. Moniliform D. Aristate

3. Insects are dominant on the earth, because of

A. Capacity to fly B. Hexapod locomotion C. Chitinous Exoskeleton D. Short life

4. Queen's substance is secreted by

A. Hypopharyngeal gland B. Mandibular gland B. Wax gland D. Weisman's ring

5. In Sunflower, Bee pollination is

A. 10 % B. 80% C. 30% D. None of these

6. In Honey bees, pollen basket is present on

A. Outer side of hindleg Tibia B. Inner side of hindleg Tibia

C. Outer side of Foreleg Tibia D. Inner side of Foreleg Tibia

P.T.O

7. Which of the following statement is correct

A. Drones are produced from fertilized eggs B. Queen is produced from unfertilized eggs

C. Worker is sterile female D. Worker is sterile male

8. …….. invented the movable bee hive in 1851

A. Fr. Newton B. L. L. Langstroth C. Anthony D. Carl Linnaeus

9. Bee pasturage includes

A. Pollens B. Nectar C. Propolis D. all of these

10. The logo of Entomological society of India

A. Walking leaf insect B. Stick insect C. Grasshopper D. Praying mantis

11.Nosema disease in honeybee caused by ----------
A. Protozoans B. Fungi
C. Bacteria D. Virus

Match the pairs

12. Central Beekeeping Research and Training Institute	A. Bangalore
13. Indian Institute of Natural Resins and Gums	B. Ranchi
14. Central Sericultural Research & Training Institute	C. Mysore
15. National Bureau of Agricultural Insect Resources	D. Pune

SECTION "B"

Answer any five questions

(5Q X 3M = 15 Marks)

Q1. Elaborate insights on the history of Beekeeping in world as well India.
Q2. Draw a neat labelled figure of Mouth parts of Honey bees and give the feeding mechanism.
Q3. Elaborate the seasonal management of honey bees.
Q4. Draw a dancing pattern of bees and give its significance.
Q5. Elaborate your views on economic importance of insects viz., Honey bees, Silk moth, Lac insects.
Q6. Write an essay on "Beekeeping: input in organic farming".

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GOA COLLEGE OF AGRICULTURE

Affiliated to Goa University

B. Sc. (Hons) Agriculture

Midterm Examination

Academic Year:2024-25 **Semester: VI**

Course No: FST362 **Course Title: Principle of Food Science and Nutrition**

Total marks: 40 (Section 'A' 20 marks + Section 'B' 20 marks)

Time: 9.30 to 10.55 a.m (Section 'A' 25 min & Section 'B' 1 Hr)

Date: 01/03/2025 **Roll No:**

Note: 1) Use of laptop, mobile, smartwatch is prohibited

2) In Section 'A' all questions are compulsory

3) Section 'A' should be answered in OMR sheets

SECTION "A"

All questions are compulsory

1. Which of the following statement is true in case of food. **(20 Q X 1 M = 20 Marks)**

A. Food is any non-edible substance consumed to provide nutritional support for an organism

B. Food is composed of six kinds of nutrients

C. Food is essential for growth, repair and reproduction

D. Food is defined as anything solid or liquid which when swallowed, digested and assimilated nourishes the body

a. Only A is correct and B, C, D is not correct

b. Only D is correct and A, C, B is not correct

c. A and C is correct and B and D is not correct

d. B and D is correct and A and C is not correct

2. Choose the correct statement regarding fluids and solid

A. They will have different particle, bulk and liquid density

B. They will not have same particle and bulk density and different liquid density

C. They will have same bulk and liquid density and different particle density

D. They will have same particle and bulk density.

a. Only A is correct and B, C, D is not correct

b. Only B is correct and A, C, D is not correct

c. Only C is correct and D, B, A is not correct

d. Only D is correct and C, B, A is not correct

P.T.O

3. The water density is maximum at ------ ^{0}C temperature.

A. -4 B 4 C -3 D 3

4. Which of the following food products contain carbohydrate mainly in the form of starch

A. Apple
B. Wheat
C. Rice
D. Potato
E. Oranges

Choose the correct answer from the option given below

a. (A), (B) and (D) only
b. (A), (B) and (E) only
c. (A), (B), (C) and (E) only
d. (B), (C) and (D) only

5. The most active form of Vitamin E is ----------

A. Beta tocopherol B. alpha tocopherol C. Gamma tocopherol D. Tocopherol

6. Excessive bleeding is due to deficiency of ---------- Vitamin

A. Phylloquinone B. Carotenoids C. Calciferol D. Thiamin

7. ---------- is a measure of the volatile water-soluble fatty acids present int fat.

A. Liebermann Burchard test B. Salkowski test C. Reichert Meissel Number D. Mailard Reaction

8. Flavanols found in Tea (camellia sinensis)

A. Catechin B. Apigenin C. Genistin D. Cyanidin

9. The storage stability of food with water activity between ------- to ------ is the highest.

A. 0.5 to 0.6 B. 0.4 to 0.5 C. 0.1 to 0.2 D. 0.2 to 0.4

10. Synthetic antioxidant used as preservative in food industry is ----------

A. Tert-butyl-hydroquinone (TBHQ) B. Anti sterility vitamin C. Fresh food vitamin D. Folacin

11. Mineral act as a catalyst in lipid peroxidation

A. Copper B. Iron C. Zinc D. Aluminium

12. Flavour compound found in Rose

A. Geranyl acetate B. Ethyl acetate C. Isoamyl acetate D. Ethyl butyrate

13. The first sensory quality by which foods are judged.

A. Flavour B. Aroma C. Colour D. texture

14. ---------- bacteria is not an example of halophiles

A. *Pseudomonas* B. *Moraxella* C. *Leuconostoc* D. *Flavobacterium*

15. Given below are two statements

Statement (i) Non enzymatic browning is also called as oxidation of food

Statement (ii) Maillard reaction is the basis for producing artificial flavours for processed food in flavouring industry

In the light of above statements, choose the most appropriate answer from the option given below.

A. Both statement (i) and statement (ii) are incorrect
B. Both statement (i) and statement (ii) are correct
C. Statement (i) is correct but statement (II) is incorrect
D. Statement (ii) is correct but statement (i) is incorrect

16. Arrange the product based on the moisture content % (lowest to Highest)

1. Edible oil
2. Milk
3. Bread
4. Honey

A. (1), (4), (3), (2)
B. (4), (3), (2), (1)
C. (3), (2), (1), (4)
D. (2), (4), (3), (1)

17. Pernicious anaemia occurs due to the deficiency of ---------- Vitamin

A. Phylloquinone B. Vitamin H C. Pyridoxine D. Cobalamin

18. Richest source of folacin is ----------

A. Legumes B. Eggs C. Cereals D. Dark green leafy vegetables

19. Bacteria which grow in high concentration of sugar is called as ---------- bacteria

A. Halophiles B. Psychrotrops C. Osmophilic D. Thermoduric

20. ---------- is an example of common bread mould

A. *Mucor pusillus* B. *Thamnidium elegans* C. *Rhizopus stolonifer* D. *Aspergillus flavus*

SECTION "B"

Answer any five questions (20 Marks)

Q1. What are the objectives of food Science, define Food Science and enlist different field of same?

Q2. What are the factors affecting the growth of microorganisms in foods?

Q3. Explain the functions of carbohydrates?

Q4. Define food spoilage and explain the classification food based on easy of spoilage with examples?

Q5. Enlist different vitamins required for growth and maintenance of good health and explain any two?

Q6. Enlist different groups of bacteria which affect the food and explain any one group.

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G O A C O L L E G E O F A G R I C U L T U R E

Affiliated to Goa University

B. Sc. (Hons.) Agriculture
Midterm Examination

Academic Year:2024-25 **Semester: VI**

Course No.:GPB-366 **Course Title: Crop Improvement-II (Rabi Crops)**

Total marks: 30 (Section 'A'- 15 marks + Section 'B'- 15 marks)

Time: (Section 'A'- 20 min & Section 'B' – 1.0 hr)

Date:25/02/2025 **Roll No:**

Note: 1) Use of laptop, mobile, smartwatch is prohibited.
2) Draw neat labelled diagrams wherever necessary.
3) In Section 'A' all questions are compulsory.
4) Section 'A' should be answered in OMR sheet.

SECTION "A" (15Q x 1M =15 Marks)

Q1. Multiple choice questions

1. Chromosome number of oats is _____.
A. 2n= 14 B. 2n=36 C. 2n=42 D. 2n=46

2._____ wild species of oats contain genes for herbicide and rust resistance.
A. *Avena sativa* B. *Avena fatua* C.*Avena barbata* D. *Avena strigosa*

3.____ condition is observed in sunflower.
A.Protandry B. Protogyny C.Distyly D. Tristyly

4.____ is a national check of safflower.
A. Bhima B. A1 C. JSI-7 D. DSH-129

5. Fertile hybrids are found in _____
A. GP1 B.GP2 C. GP3 D. GP4

6.Head of sunflower is called as _____.
A. Earhead B.Spikelet C. Capitulum D. Capsule.

7. _____ is the progenitor of safflower.
A.*Carthamus oxycantha* B.*Carthamus giganteus*
C.*Carthamus tinctorius* D.*Carthamus rigidus.*

8.The term ideotype was proposed by Donald in 1968 while working on ___.

A. Rice B.Wheat C. Oat D. Barley

9.The chromosome number of *Avena strigosa* is____

A.2n=28 B.2n=14 C.2n=42 D.2n=46

10. Head to row and remnant seed method in sunflower was given by _____.

A. Jennings B. Harlan and DeWet C. Pustovoit D. Mock and Pearce

11. The concept of gene pool was proposed by_____

A. Jennings B. Harlan and DeWet C. Pusovoit D. Mock and Pearce

12. Progenitor of sunflower is _____

A. *Helianthus tuberosus* B. *Helianthus petiolaris*

C. *Helianthus hirsutus* D. *Helianthus rigidus*

13. Improved varieties of recent past are known as _____

A.Land races B. Modern cultivars

C. Obsolete cultivars D. Mutants

14. Movement of head in the direction of sunlight from morning to evening observed in sunflower is called_____.

A. Heliotropism B. Phototrophism C.Light reaction D.Allotropism

15._____ is a semi-dwarf variety of sunflower.

A.CO1 B.CO2 C.Mamoth Russian D. Jupiter

SECTION "B" (Answer any five questions) (5Q X 3M = 15 Marks)

Q1. Explain the in-situ and ex-situ method of germplasm conservation.

Q2. Enlist and explain types of ideotypes.

Q3. State the following with respect to barley crop.
1.Botanical name 2.Chromosome number 3. Wild relatives D.Breeding objectives.

Q4. Explain head to row and remnant seed method along with breeding objectives in of sunflower.

Q5. State classification and breeding objectives of safflower.

Q6. State the features of wheat and maize ideotype.

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GOA COLLEGE OF AGRICULTURE
Affiliated to Goa University

B. Sc. (Hons.) Agriculture
Midterm Examination

Academic Year: 2024-25 **Semester**: VI
Course No.: HORT 366 **Course Title:** Post Harvest Management and Value addition of Fruits and Vegetables
Total marks: 30 (Section 'A'- 15 marks + Section 'B'- 15 marks)
Time:1.15 to 2.35 p.m (Section 'A'- 20 min & Section 'B' – 1.0 hr)
Date: 27/02/2025 **Roll No:**

Note: 1**) Use of laptop, mobile, smartwatch is prohibited.**

2) Draw neat labelled diagrams wherever necessary.

3) In Section 'A' all questions are compulsory.

4) Section 'A' should be answered in OMR sheet.

SECTION "A"

(15Q x 1M =15 Marks)

Multiple choice questions

1. CFB stands for_____

A. Corrugation fibre box B. Corrugated fibre board C. Corrugated fabricated box D Corrugation fibre board

2. _____ is the most exported processed product from India

A. Tomato paste B. tomato ketchup C. Mango pickle D. Mango pulp

3. How much percentage of horticultural produce contribute to GDP to agriculture of India

A. 5% B. 20% C. 30% D. 10%

4. The extent of post-harvest losses of fruits in India is in the range of

A. 10-20% B. 20-30% C. 30-40% D 40-50%

5. Bacterial spot in tomato is caused by

A.Xanthomonas campestris B. Xanthomoas solani C. Botryodipldia theobromae D. Botryodipldia solani

6._____ reduces the sprouting in onion

A. GA3 B. CCC C. MH D. CEPA

7. Read the following statements carefully and choose the correct alternatives

Statement 1: Harvesting of commodity when the plant or plant part poses all the prerequisite for purpose is called physiological maturity

Statement 2: Apple is climacteric fruit

P.T.O

A. Statement 1 is correct and statement 2 is incorrect

B. . Statement 1 is incorrect and statement 2 is correct

C. None is correct

D. Both are correct

8. Vitamin C is also called as _____

A. Phenolic acid B. β-Carotene C. Antioxidant D. Ascorbic acid

9. Softening of fruits occurs in the presence of _____enzyme

A. Pectin peroxidase B. Pectin isomerase C. Pectin esterase D. Pectin cellulase

10. Example of antifungal agents used for increasing shelf life of fruits and vegetables is

A. Sodium Orthophenyl Phenate B. Maleic hydrazide C. Calcium chloride D. Potassium permanganate

11. _____ delays the ripening of mango fruit

A. GA3 B. MCP C. CCC D. MH

12. Whip tail in cauliflower is due to _____ deficiency

A. Boron B. Nitrogen C. Calcium D. Molybdenum

13. Necrosis in aonla is due to _____ deficiency

A. Calcium B. Nitrogen C. Calcium D. Boron

14. Mummification is major Physiological disease in_____

A. Tomato B. Custard apple C. Strawberry D. Almond

15. _____ is the major post-harvest disease in mango

A. Spongy tissue B. Scald C. Anthracnose D. Black tip

SECTION "B"

Answer any five questions (5Q X 3M = 15 Marks)

Q1. Write short note on scope of post-harvest management and value addition of fruits and vegetables in India

Q2. Enlist the preharvest factors affecting post-harvest quality of fruits and explain any two in details

Q3. Write short note on spongy tissue and black tip in mango

Q4. Enlist the changes during ripening and explain any two in details

Q5. Explain the use of chemicals for increasing shelf life of fruits and vegetables

Q6. Explain the ideal characteristics of packaging and explain packaging for export purpose

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GOA COLLEGE OF AGRICULTURE

Affiliated to Goa University

B. Sc. (Hons.) Agriculture
Midterm Examination

Academic Year: 2024-25 **Semester:** VI
Course No.: PATH-365
Course Title: Diseases of Field and Horticultural Crops and their Management – II
Total marks: 30 (Section 'A'- 15 marks + Section 'B'- 15 marks)
Time: Section 'A'- 20 min & Section 'B' – 1.0 hr)
Date: **Roll No:**

Note: 1) Use of laptop, mobile, smartwatch is prohibited.
2) Draw neat labelled diagrams wherever necessary.
3) In Section 'A' all questions are compulsory.
4) Section 'A' should be answered in OMR sheet.

SECTION "A"

(15Q x 1M =15 Marks)

Answer the following

1. What is the causal organism of Stem rust/Black rust of wheat?
   (A) *Puccinia graminis tritici*
   (B) *Puccinia graminis recondita*
   (C) *Puccinia striiformis tritici*
   (D) *Puccinia helianthi tritici*

2. Which of the following is the causal organism of Grassy shoot of sugarcane?
   (A) Bacteria
   (B) Phytoplasma
   (C) Nematodes
   (D) Virus

3. Statement - (I) *Plasmopara halstedii* is the causal organism of Downy mildew of sunflower (II) *Plasmopara halstedii* produces oospors.
   (A) Statement (I) is correct and statement (II) is false.
   (B) Statement (II) is correct and statement (I) is false.
   (C) Statements (I) and (II) are correct.
   (D) Statements (I) and (II) are false.

4. What type of parasite/pathogen is *Albugo candida*?

(A) Saprophyte
(B) Facultative
(C) Saprophyte and Facultative
(D) Obligate

5. What are the different types of spores produced by *Fusarium oxysporum f.sp. ciceri*

(A) Microconidia and Chlamydospores
(B) Macroconidia and Chlamydospores
(C) Chlamydospores and Microconidia
(D) Microconidia, Macroconidia and Chlamydospores

Match the pairs

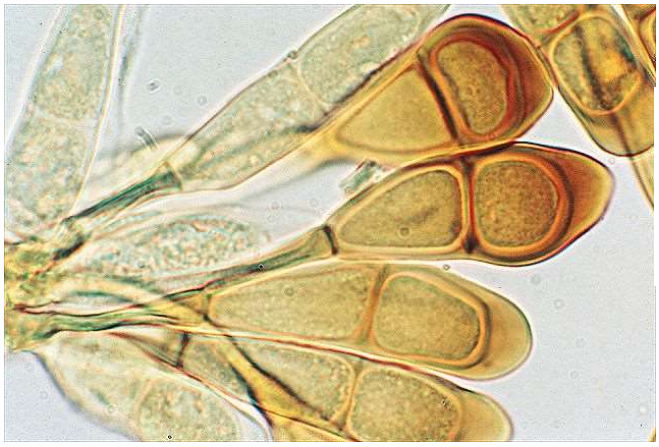
6. G. N. Agrios	(A) Dithane – M45
7. Contact fungicide	(B) Streptomycin
8. Systemic fungicide	(C) Plant Pathology
9. Antibiotic	(D) Bavistin

Identify

10. Identify the disease

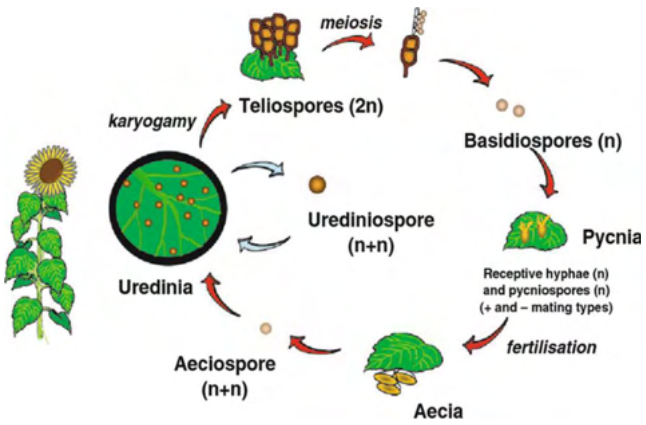
(A) Stripe rust of wheat
(B) Black rust of wheat
(C) Leaf rust of wheat
(D) Yellow rust of paddy

11. Identify the spores.



(A) Uredospores
(B) Teleospores
(C) Aeciospores
(D) Pycniospores

12. Identify the type of disease life cycle in rust diseases.



(A) Asexual disease cycle
(B) Sexual disease cycle
(C) Asexual and Sexual disease cycle
(D) Not a disease cycle

Justify

13. Students are studying Plant pathology course PATH-365 indicating they are learning the following:
    (A) Only Etiology
    (B) Only Symptoms and disease management
    (C) Only Disease cycle
    (D) Etiology, Symptoms, Disease cycle, Disease management

14. Disease management reduces crop yield losses, suggesting the following.
    (A) It will only increase crop yield.
    (B) It will only increase crop yield and improve economic status of farmers.
    (C) It will increase crop yield and improve economic status of farmers and will be part of doubling the income of farmers.
    (D) It will not have any effect on disease management and crop yield.

15. Insect pests should be controlled in field for disease management.
    (A) Because they only damage crops.
    (B) Because they damage crops and transmit and spread the pathogens and diseases in field.
    (C) Because they only transmit the disease.
    (D) Because they have no significance in crop diseases.

**** End of Section A ****

SECTION "B"

Answer any five questions

(5Q X 3M = 15 Marks)

Q1. Write etiology with causal organism of Stem rust of wheat. Write symptoms of Stem rust of wheat. Write management of Stem rust of wheat.

Q2. Write symptoms of Red rot of sugarcane. Write disease cycle of Red rot of sugarcane. Write management of Red rot of sugarcane.

Q3. Write etiology with causal organism of Leaf blight of sunflower. Write symptoms of Leaf blight of sunflower. Write management of Leaf blight of sunflower.

Q4. Write symptoms of Wilt of gram. Write disease life cycle of Wilt of gram. Write management of Wilt of gram.

Q5. Write etiology with causal organism of Rust of lentil. Write symptoms of Rust of lentil. Write disease cycle of Rust of lentil.

Q6. Write names and authors of two Plant Pathology books. Write names of two fungal diseases and their host crops you observed in college campus. Write about use of plant pathology for farmers.

**** End of Section B ****

GOA COLLEGE OF AGRICULTURE

Affiliated to Goa University

B. Sc. (Hons) Agriculture

Midterm Examination

Academic Year:2024-25 **Semester: VI**
Course No:ELE HORT 367 **Course Title: Landscaping (2 + 1)**
Total marks: 30 (Section 'A' 15 marks + Section 'B' 15 marks)
Time: 10:15 am to 11.35 am (Section 'A' 20 min & Section 'B' 1 Hr)
Date: 28/02/2025 **Roll No:**

Note: 1) Use of laptop, mobile, smartwatch is prohibited
2) In Section 'A' all questions are compulsory
3) Section 'A' should be answered in OMR sheets

SECTION "A"
All questions are compulsory (15Q x 1M =15 Marks)

1. Given below are two statements
   Statement (i) In case of landscape a fully developed large tree e can change the microclimate and brings down the temperature by 12 to 15ºC.

   Statement (ii)The landscaping profession conveys and directs to make human life more elegant, more satisfying, more eco-friendly and more productive.

   In the light of above statements, choose the most appropriate answer from the option given below.

   A. Both statement (i) and statement (ii) are incorrect
   B. Both statement (i) and statement (ii) are correct
   C. Statement (i) is correct but statement (II) is incorrect
   D. Statement (ii) is correct but statement (i) is incorrect

2. An imaginary line in the formal garden is always ----------
   A. Zigzag B. straight C. Bending D. Wider

3. Which of the following plants are best suited for Conservatory
   a. Acalypha
   b. Bougainvillea
   c. Diffenbechia
   d. Duranta
   e. Lemon grass

P.T.O

Choose the correct answer from the option given below

A. (C) is suited and (A), (B), (D), (E) not suited
B. (B) is suited and (A), (C), (D), (E) not suited
C. (A) is suited and (C), (B), (D), (E) not suited
D. (D) is suited and (A), (B), (C), (E) not suited

4. Basic and essential feature of any garden.
   A. Hedge B. Edge C. Lawn D. Arch

5. Famous rock garden of India made by Nekchand Saini is located at
   A. Amritsar B. Chandigarh C. Lucknow D. Varanasi

6. ---------- breaks the rules of land scape.
   A. Mughal B. Japanese C. Chinese D. Informal Garden

7. Which of the following is Ornamental purpose hedge
   A. Casurina B. Euphorbia C. Aralia D. Pedilenthus

8. Given below are two statements
   Statement (i) The lawn is a green carpet for a land scape

   Statement (ii) 75% of the beauty of the garden depends on a properly maintained lawn

   In the light of above statements, choose the most appropriate answer from the option given below.

   A. Both statement (i) and statement (ii) are incorrect
   B. Both statement (i) and statement (ii) are correct
   C. Statement (i) is correct but statement (II) is incorrect
   D. Statement (ii) is correct but statement (i) is incorrect

9. Which of the following is well known Japanese expert on Bonsai.
   A) Mia Zaki C) Yukiro Tazawa
   B) Kyozo Morata D) eijun Nishihata

10. Which of the following plant is/are suitable fruit plant for Bonsai
   A) Pomogrante C) Both A & B
   B) Tamrind D) None of these

11. _____ is a botanical name of Bermuda grass

A) *Zoysia japonica* C) *Zoysia matrella*
B) *Cynadon dactylon* D) *Zoysia tenuifolia*

12. Which of the following is the quickest method for establishment for lawn

A) Turf plastering C) Dibbling
B) Turfing D) Suckers

13. In India the theme of bio-aesthetic planning was propagated by_____

A) Prof. M. S. Sawminathan C) Dr. M.S. Randhawa
B) Dr. B P Pal D) Dr. S D. Mukherjee

14. _____ type of bonsai has height of about 18 to 30 cm.

A) Micro C) Miniature
B) Medium Tall D) Tall

15. In liming operation powdered chalk or lime is applied @ _____ per square meter of area

A) 200 gm C) 300 gm
B) 350 gm D) 250 gm

SECTION "B"

Answer any five questions (5Q X 3M = 15 Marks)

Q. 1. Enlist the different components of garden and discuss any five of it?

Q. 2. Write short notes on principle of gardening?

Q. 3 Give the classification of garden and explain any one type of garden.?

Q. 4 What do you mean by Bio aesthetic planning and write about scope/areas of bio aesthetic planning?

Q. 5. Define lawn and explain different methods of establishment of lawn?

Q. 6. Enlist different styles of bonsai and write about characteristics of plant suitable for Bonsai?

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GOA COLLEGE OF AGRICULTURE

Affiliated to Goa University

B. Sc. (Hons.) Agriculture
Midterm Examination

Academic Year:2024-25 **Semester:VI**
Course No.: ELE SSAC-364 **Course Title: Agrochemicals**
Total marks: 30 (Section 'A'- 15 marks + Section 'B'- 15 marks)
Time:10.15 am-11.35 am (Section 'A'- 20 min & Section 'B' – 1.0 hr)
Date:28/02/2025 **Roll No:**

Note: 1) Use of laptop, mobile, smartwatch is prohibited.
2) Draw neat labelled diagrams wherever necessary.
3) In Section 'A' all questions are compulsory.
4) Section 'A' should be answered in OMR sheet.

SECTION "A"

(15Q x 1M =15 Marks)

Multiple choice questions

1. Most acid forming fertilizer and least preferred N fertilizer.
   A. Ammonium Sulphate
   B. Ammonium chloride
   C. Urea
   D. Sodium nitrate

2. Most deficient primary Nutrient in the soil
   A. Calcium
   B. Phosphorus
   C. Iron
   D. Nitrogen

3. Nutrient N content in Anhydrous Ammonia
   A. 62% B. 72% C. 82% D. 92%

4. Amide containing nitrogenous fertilizer
   A. Ammonium Sulphate
   B. Ammonium chloride
   C. Urea
   D. Sodium nitrate

5. Fire hazardous or Explosive nitrogenous fertilizer
   A. Ammonium Sulphate
   B. Ammonium chloride
   C. Ammonium nitrate
   D. Sodium nitrate

P.T.O

6. Example of acid soluble phosphatic fertilizer

A. SSP
C. Ammonium phosphate
B. Basic slag
D. Raw bone meal

7. In India first fertilizer was produced in the year 1906 was…….

A. DSP
C. SSP
B. Ammonium sulphate
D. Basic slag

8. Insoluble phosphatic fertilizer are suitable for which type of soil

A. Slightly acidic
C. Strongly acidic
B. Moderately acidic
D. Neutral

9…… is a cheaper fertilizer and extensively used by the cultivators for all crops except tobacco, potato, tomato etc

A. KCL
C. KNO_3
B. K_2So_4
D. Kainite

10. …….Fertilizers are stored in polythene lined jute bags as they are hygroscopic and their storage properties are not excellent.

A. Ammonium chloride
C. Ammonium nitrate
B. Sodium nitrate
D. Ammonium sulphate

11. A revised Fertilizer Control Order containing various amendments came into force in ……..known as The Fertilizer (Control) Order (FCO)

A. September 25, 1975
C. September 25, 1955
B. September 25, 1957
D. September 25, 1985

12. Low analysis fertilizers are those which ……. % of primary nutrient.

A. < 25
B. < 30
C. >25
D. >30

13. Zinc phosphate is an example of…….

A. Fungicides
C. Rodenticides
B. Bactericides
D. Alagicides

14. Kisan Khad is also known as

A. Ammonium sulphate nitrate
B. Calcium ammonium nitrate
C. Ammonium phosphate nitrate
D. Di-calcium phosphate

P.T.O

15. Fertilizers which increase alkalinity in soil as they are basic in residual effect

A. Ammonium sulphate
B. Ammonium nitrate
C. Urea
D. Calcium nitrate

SECTION "B"

Answer any five questions

(5Q X 3M = 15 Marks)

Q 1. Define fertilizer, give brief classification of fertilizers and write key points related to fertilizer Urea.

Q 2. Define Agrochemicals. Write in detail about types of agrochemicals and effect of agrochemicals on environment.

Q 3. Give brief classification of nitrogenous fertilizers with suitable example and write production technology in manufacturing of both SSP and TSP.

Q 4. Enlist processes for manufacturing of ammonia and explain in detail Haber-Bosch process.

Q 5. Give classification of phosphatic, potassic fertilizer and write management strategies for phosphatic fertilizer.

Q 6. Write in detail about complex fertilizer, characteristics of complex fertilizer and give examples of micronutrient.

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