



Syllabus
FOR THE POST OF MANAGER (AGRI PRODUCTS)

1. Fundamentals of Horticulture (10%)

- Definition and importance of horticulture
- Branches of horticulture (Pomology, Olericulture, Floriculture, Landscaping, etc.)
- Major fruit, vegetable, and ornamental crops
- Climatic and soil requirements for horticultural crops

2. Crop Production & Management (15%)

- Propagation methods (seeds, grafting, budding, layering, tissue culture)
- Nutrient and water management in horticultural crops
- Pruning, training, and canopy management
- Pollination and fruit set in horticultural crops

3. Post-Harvest Technology (15%)

- Maturity indices and harvesting techniques
- Post-harvest physiology and ripening
- Storage techniques (cold storage, controlled atmosphere, modified atmosphere)
- Packaging and transportation of horticultural products

4. Processing & Value Addition (10%)

- Processing techniques for fruits, vegetables, and flowers
- Preservation methods (drying, freezing, pickling, canning)
- Extraction of essential oils, oleoresins, and bioactive compounds
- Quality control and food safety regulations

5. Pest & Disease Management (10%)

- Common pests and diseases in horticultural crops



- Integrated Pest Management (IPM) strategies
- Biological control methods
- Use of pesticides and their impact on product quality



6. Agricultural Marketing & Trade (10%)

- Supply chain management in horticultural products
- Market channels and price determination
- Export potential of horticultural products
- WTO regulations and trade policies for agricultural products

7. Climate Change & Sustainable Horticulture (10%)

- Impact of climate change on horticultural production
- Mitigation strategies (protected cultivation, precision agriculture)
- Organic farming and sustainable practices
- Urban and peri-urban horticulture

8. Recent Advances & Innovations (10%)

- Hydroponics, aeroponics, and vertical farming
- CRISPR and biotechnology in horticulture
- Smart farming and IoT-based horticultural management
- Nanotechnology applications in agriculture

9. General Agriculture Knowledge (10%)

- Pakistan's major crops and their contribution to GDP
- Agricultural policies and research institutions in Pakistan
- Role of FAO, ICARDA, CIMMYT, and PARC in agricultural development
- Sustainable Development Goals (SDGs) related to agriculture
