Covers Videos, Lectures, and Chapters 1-12 of textbook. Part I. Exam Format
50 pts Draw and Label
150 pts Heating and Cooling
100 pts Greenhouse site selection
100 pts Short paragraph answer

CALCULATIONS
Bring a calculator on the Day of EXAM
Heating
Cooling
Fertilizer Calculations

Part II. TERMS TO KNOW

GLAZING MATERIALS
Glass
Polycarbonate
Polyethylene film
Fiberglass
Light transmittance
Insulating properties
Anti fog coating
Infrared reflection
Pressurizing fan

VENTILATION
Ridge vent
Ventilator
Roof vent
Side vents

HEATING
Convection
Conduction
Solar heat
Radiation
Radiant energy
LP gas
Natural gas
Btu
MBtu
Unit heater
Boiler
Boiler Horsepower
Thermostat
Infiltration
Zoned heating
Exhaust
Carbon monoxide
Heat exchanger
Sulfur dioxide
Ethylene
HAF fan
Finned pipes
Radiant heater
Standard heat loss value

GREENHOUSE COOLING
Fan-and-Pad
Passive cooling
Active cooling
Winter cooling
Summer cooling
Polytube
HAF fan
Chlorine/Bromine injector
Excelsior
Cellulose
Fog
Relative humidity
Sling psychrometer
Evaporation
Ventilator
cfm
elevation
light intensity
temperature gradient
exhaust fan
uncorrected air exchange
corrected air exchange
\(F_{\text{house}}\)
\(F_{\text{light}}\)
\(F_{\text{vel}}\)
ENviron. control systems
- Manual controls
- On/off switches
- Step controllers
- Dedicated microprocessors
- Computers: Integrated Control
- Data loggers

Root substrate
- Organic matter
- Carbon-to-Nitrogen ratio
- Bulk Density
- Moisture Retention / Aeration
- Cation Exchange Capacity
- pH
- Peat Moss
- Bark
- Coir
- Sawdust
- Vermiculite
- Sand
- Perlite
- Polystyrene Foam
- Rock Wool

Root substrate pasteur.
- Weed seeds
- Resistant plant viruses
- Soil insects
- Fusarium
- Bacteria
- Nematodes
- Water molds
- Manganese toxicity
- Ammonium toxicity
- Methyl bromide
- Chloropicrin
- Reinoculation

Watering
- Underwatering
- Overwatering
- Pythium
- Phytophthora
- Rhizoctonia

Fertilization
- Pre-Plant
- Non-Mineral Nutrients
- Macronutrients
- Micronutrients
- Nutrient Toxicity
- Nutrient Deficiency
- Roles of nutrients
- Rule of 75
- Injector
- Fertilizer Calculations
- Slow-Release Fertilizer
- Water Soluble Fertilizer
- Chelated Micronutrients
- Substrate analysis
- Foliar analysis

Alt. cropping systems
- Nutrient Film Technique
- Rock Wool
- Aeroponics
- In-Line Pasteurization
- Whole-Firm Recirculation

Carbon dioxide fert.
- Photosynthesis
- Respiration
- Carbon Deficiency
- Carbon Dioxide Injection

Light and temperature
- Photosynthesis
- Light quality
- Chlorophyll
- Carotenoids
- Incandescent filament
- Fluorescent cool white
- Metal Halide
- Low pressure sodium

Water Quality
- Soluble Salt (EC)
- Alkalinity
- Hardness
- Specific Elements
- Reverse Osmosis
- Drip tube
- Microsprinkler
- Boom irrigation
- Ebb-and-Flood
- Flood Floor System
- Trough Culture
- Float System

High pressure sodium
- Reflector
- Ballast
- Growth rooms
- Photoperiodism
- Critical Daylength
- Short-Night Treatment
- Long-Night Treatment
- DIF