

09 — AGRICULTURAL AND IRRIGATION ENGINEERING

(Answer ALL questions)

56. The branch of hydrology which deals with soil moisture is known as
1. Pedohydrology
 2. Limnology
 3. Potamology
 4. Geohydrology
57. Evapo-transpiration is
1. Water equivalent of moisture contained in air which is lost through evaporation
 2. Unaccounted loss of water by evaporation at a location
 3. Evaporation from plants in a catchment area
 4. The total evaporation and transpiration from the catchment area
58. The movement of water in a channel is influenced by
1. Force of gravity
 2. Slope
 3. Friction of water with channel bed
 4. All of the above
59. Darcy's law is used for
1. Open channel flow
 2. Diffusion
 3. Underground motion of water
 4. Evaporation of surface water
60. The infiltration capacity is
1. Maximum rate of accumulation of water in an area
 2. Precipitation – Evaporation per unit time
 3. Maximum rate at which water enters the soil
 4. Rainfall water entering the subsoil
61. A Channel in which water flows with free surface constructed across a canal, drain or river may be below or above the ground level is called
1. Conduit
 2. Pen stock
 3. Aqueduct
 4. Siphon
62. Most of the formula for flood discharge is of the form
1. $Q = CA^n$
 2. $Q = Ce^n$
 3. $Q = C \log_e^{(n)}$
 4. $Q = C + A + n$
63. Evaporation from water surface increases with all of the following EXCEPT
1. Temperature
 2. Salinity
 3. Aridity of the region
 4. Wind velocity
64. Identify the correct statement
1. Frictional resistance in a pipe decreases with density of the fluid
 2. Frictional resistance in a pipe increases with the square of velocity
 3. Frictional resistance in a pipe is dependent on the fluid pressure
 4. Frictional resistance in a pipe is independent on surface roughness
65. A hot wire anemometer is used for the measurement of
1. Pressure of gases
 2. Velocity of gases
 3. Viscosity of gases
 4. Viscosity of liquids

76. The seasonal water requirement of sugarcane is
1. 500-700 mm
 2. 400-600 mm
 3. 700-1300 mm
 4. 1500-2500 mm
77. The ratio of crop yield to the volume of water used to produce the crop is called
1. Crop water use efficiency
 2. Distribution efficiency
 3. Water use efficiency
 4. Irrigation efficiency
78. Chemical clogging in drip system is mainly due to
1. Dissolved chemicals in the water
 2. Calcium carbonate deposits
 3. Calcium sulphate and sodium salts deposits
 4. All the above
79. Field Capacity of a soil depends upon
1. Porosity of soil
 2. Capillary tension of soil
 3. Dissolved chemicals in water
 4. Both (1) and (2) above
80. The best alignment for a canal is when it is aligned along
1. Straight line
 2. Contour line
 3. Ridge line
 4. Zig zag line
81. When Δ is the depth of water in metres and B is the number of days of basin period, then the outlet discharge factor is
1. $8.64 \frac{\Delta}{B}$
 2. $8.64 \frac{B}{\Delta}$
 3. $8.64 B(\Delta)$
 4. $\frac{8.64}{B\Delta}$
82. The survey which are made to fix the property lines, the calculation of land area or the transfer of land property from one owner to another is known as
1. Cadastral survey
 2. Geodetic survey
 3. Property survey
 4. Urban survey
83. The number of links provided in a revenue chain is
1. 100
 2. 66
 3. 50
 4. 16
84. APEDA stands for
1. Agricultural and Processed Food Products Export Development Agency
 2. Andhra Pradesh Energy Development Agency
 3. Agricultural Products Export Development Agency
 4. Andhra Pradesh Environmental Development Authority
85. The weight of air contained in a room 7 m $\times$ 10 m $\times$ 4 m high at atmospheric pressure and 20 °C temperature will be
1. 306 kg
 2. 633 kg
 3. 336 kg
 4. 636 kg
86. The dose of ionizing radiation sufficient to enhance the keeping quality of foods by causing a substantial decrease in number of viable specific spoilage microorganisms is called
1. Radurization
 2. Radappertization
 3. Radicidation
 4. Sterilisation
87. The gas produced by burning wood in an insufficient supply of oxygen is called
1. Producer gas
 2. Natural Gas
 3. Conditioned gas
 4. Biogas

88. The HP required for a belt conveyor to convey 9 tons of wheat per hour for a distance of 30 m will be
1. 4
 2. 1
 3. 2
 4. 5
89. The amount of moisture removed on drying 1300 kg of groundnut pods at a m.c. of 25% db to 10% m.c. db will be
1. 156 kg
 2. 195 kg
 3. 165 kg
 4. 166 kg
90. CIPHET is located in
1. Thanjavur
 2. Chennai
 3. Ludhiana
 4. Hyderabad
91. _____ is used for alcoholic fermentation.
1. *Acetobacter aceti*
 2. *Saccharomyces cerevisiae*
 3. *Staphylococcus aureus*
 4. *Bacillus stearothermophilus*
92. Total solids present in milk is found by _____ formula.
1. Fischer
 2. Richmond
 3. Leighton
 4. Salwin Slawson
93. If CLR is Corrected Lactometer Reading and OLR is Observed Lactometer Reading, the density of milk is
1. $1 - (CLR/100)$
 2. $1 + (CLR - OLR) / 1000$
 3. $1 + (CLR/100)$
 4. $1 + (CLR - OLR)/100$
94. The part of the plough to which all other parts are fastened is called
1. Landside
 2. Frog
 3. Share
 4. Slip nose
95. A *lister* is used for
1. Bund forming
 2. Opening deep furrows
 3. Levelling
 4. Uprooting of trees
96. Cetane number of a fuel is the percentage of cetane and
1. Beta methyl naphthalene
 2. Alpha buthyl naphthalene
 3. Alpha methyl naphthalene
 4. Tetra methyl butylene
97. Which of the following finds a place only in National Water Policy 2012?
1. Flood and drought management
 2. Community participation
 3. Database and information system
 4. Conjunctive use of water
98. The time taken for burning after the spark is produced is called
1. Delay time
 2. Reaction time
 3. Knocking time
 4. Ignition time
99. Roller vane rotary pump is used for spraying.
1. High volume
 2. Low volume
 3. Medium volume
 4. All of them
100. Tensiometer can accurately measure soil moisture tension up to
1. 1.00 atm
 2. 0.85 atm
 3. 0.95 atm
 4. 0.75 atm
101. The downward movement of surface soil water is known as
1. Infiltration
 2. Percolation
 3. Leaching
 4. Washout

102. The first KVK was established in 1974 at
1. Nagpur
 2. Nilokheri
 3. Ludhiana
 4. Pondicherry
103. The process of removal of excess water from the land surface is called
1. Sub surface drainage
 2. Surface drainage
 3. Slope drainage
 4. None of the above
104. A ten human power equals to
1. 0.1 hp
 2. 0.5 hp
 3. 1.0 hp
 4. 10.0 hp
105. White smoke indicates
1. Presence of water in fuel
 2. Burning of lubricant in cylinder
 3. Presence of water in lubricant
 4. Rich air and fuel mixture
106. The specific gravity of fuel is measured by
1. Hygrometer
 2. Thermometer
 3. Hydrometer
 4. All are correct
107. The governor is used on tractor engine is called.
1. Constant speed governor
 2. Variable speed governor
 3. Hydraulic governor
 4. Both (1) and (2) only
108. A tillage system in which is suitable for dry land agriculture is
1. Zero tillage system
 2. Plough plant
 3. Rotary tillage system
 4. Till plant system
109. The offset disc harrow are mostly suitable for working in
1. Garden
 2. Orchard
 3. Field
 4. Wetland
110. Puddling is done mainly for
1. Reducing seepage of water
 2. Reducing deep percolation of water
 3. Smoothing seed bed
 4. Smoothing of furrow
111. Bucket type sprayer consist of
1. Single and double acting pump
 2. Centrifugal pump
 3. Plunger type pump
 4. Piston type
112. The nozzle used for herbicide and fungicide application is
1. Hollow cone
 2. Solid cone
 3. Flat fan
 4. Jet stream
113. Renewable source of energy is
1. Exhaustible
 2. Inexhaustible
 3. Nuclear based
 4. Biogas
114. Soil erosion is more when
1. Panly impact of raindrop
 2. Raindrop impact along with overland flow
 3. Only overland flow
 4. All are correct
115. Which soil is more resistant to erosion?
1. Sandy soil
 2. Clay soil
 3. Loamy soil
 4. Both (1) and (3)

66. Capillary action is due to the
1. Viscosity of liquid
 2. Cohesion of liquid particles
 3. Surface tension
 4. None of the above
67. Manning's formula is used to determine
1. Friction head loss in pipes running full
 2. Friction head loss in pipes running partially full
 3. Friction head loss in open channels
 4. Friction head loss in irregular sections
68. The velocity in a 2 cm diameter pipe is 20 m/s. If the pipe enlarges to 5 cm diameter, the velocity, in m/s, will be
1. 8.0
 2. 6.4
 3. 5.2
 4. 3.2
69. The sequence of geological cycle for the formation of soils is
1. Weathering, Transportation, deposition and uphevel
 2. Transportation, Weathering, deposition and uphevel
 3. Transportation, deposition, Weathering and uphevel
 4. deposition, Weathering, uphevel and transportation
70. The Water Content of a soil
1. $\frac{\text{Weight of water}}{\text{Total weight of soil}}$
 2. $\frac{\text{Weight of water}}{\text{Dry weight of solid particles}}$
 3. $\frac{\text{Weight of water}}{\text{Dry weight of solid particles} + \text{Weight of water}}$
 4. $\frac{\text{Weight of water}}{\text{Dry weight of solid particles} - \text{Weight of water}}$
71. The fundamental relationship between water content (w), bulk density (γ) and dry density (γ_d) is
1. $\gamma_d = \frac{w}{\gamma + w}$
 2. $w = \frac{\gamma_d}{\gamma + w}$
 3. $\gamma = \frac{\gamma_d}{1 + w}$
 4. $\gamma_d = \frac{\gamma}{1 + w}$
72. A soil sample has a porosity of 40%. The specific gravity of solids is 2.70. The dry density would be
1. 0.667
 2. 1.24
 3. 1.37
 4. 1.62
73. In India, soils are classified by
1. MIT Classification
 2. Particle size classification
 3. Unified soil classification system
 4. International classification system
74. The surface irrigation in which water is flooded over the land segments surrounded by dikes is called
1. Corrugation irrigation
 2. Check basin irrigation
 3. Level basin irrigation
 4. Wild flooding
75. The furrow irrigation in which furrows are constructed with a little slope on contour is called
1. Wild flooding
 2. Flat planted basin
 3. Contour furrow irrigation
 4. Sloping furrow irrigation