

Sr. No.	Question			
1.	Manual chaff cutter, according to BIS standards, feeding chute has minimum length of ----- and covered length of -----.			
	(A)	90 cm and 45 cm	(B)	60 cm and 30 cm
	(C)	45 cm and 30 cm	(D)	None of these
2.	S.F.C in engines stands for			
	(A)	Sensor fuel calibration	(B)	Speed fuel calibration
	(C)	Specific fuel consumption	(D)	Specific fuel consumption
3.	Ports are present in			
	(A)	4- stroke engine	(B)	2- stroke engine
	(C)	Both (A) and (B)	(D)	None of these
4.	In air cooled engine, the purpose of fins is to			
	(A)	Cool engine	(B)	Increase the contact area of air
	(C)	Control fuel consumption	(D)	Both (A) & (B)
5.	Standard PTO speed is			
	(A)	1000 rpm	(B)	1100 rpm
	(C)	540 rpm	(D)	340 rpm
6.	The type of pump, used in force feed system of lubrication is			
	(A)	Gear pump	(B)	Jet pump
	(C)	Plunger pump	(D)	Reciprocating pump
7.	In 4-stroke cycle engine, one cycle is completed in			
	(A)	one revolution of the crankshaft	(B)	two revolution of the crankshaft
	(C)	four revolution of the crankshaft stroke	(D)	None of these
8.	A four cylinder diesel engine has a cylinder 30 cm diameter, 60 cm Stroke and runs at 160 revolutions per minute. If the engine fires once per two revolution and shows an indicated mean effective pressure of 7.5 kg per square cm, calculate I.H.P?			
	(A)	144 hp	(B)	288
	(C)	240 hp	(D)	None of these
9.	The process of detaching the grains from the ear head or the plants is called			
	(A)	Mowing	(B)	Winnowing
	(C)	Cutting	(D)	None of these
10.	In mower, the ledger plate is the component of			
	(A)	Power transmission unit	(B)	Knife section
	(C)	Guard	(D)	None of these
11.	The pressure of knapsack sprayer during operation is			
	(A)	1.5 kg/cm <sup>2</sup>	(B)	3.5 kg/cm <sup>2</sup>
	(C)	1.0 kg/cm <sup>2</sup>	(D)	5.0 kg/cm <sup>2</sup>
12.	What is the difference between planter and seed drill?			
	(A)	Row to row distance is same.	(B)	Plant to plant distance is same.
	(C)	Both (A) and (B)	(D)	None of these
13.	How many hectares of grass per day of 10 h can be cut by a mower being			

	operated at a speed of 4 kmph and with 40 cm cutter bar?			
	(A)	16.8	(B)	12.8
	(C)	13.8	(D)	14.8
14.	A coulter attachment is used with			
	(A)	Disc harrow	(B)	Seed drill
	(C)	Subsoiler	(D)	Mb Plough
15.	In combine, the commonly used cylinder is			
	(A)	Drum type	(B)	Spike tooth type
	(C)	Rasp bar type	(D)	None of these
16.	The length of chaff cut for silage varies from			
	(A)	5 cm	(B)	6 cm
	(C)	2 to 4 cm	(D)	8 cm
17.	VMD term is associated with			
	(A)	Sowing	(B)	Intercultural
	(C)	Harvesting	(D)	Spraying
18.	Determine the length of cross belt to connect two pulleys 4 m apart. The diameter of driving and driven pulley is 1.25 m and 0.75 m, respectively?			
	(A)	11.39 m	(B)	10.39 m
	(C)	9.39 m	(D)	12.39 m
19.	Total draft of four bottom 40 cm MB plough when ploughing 17.5 cm deep at 6.0 kmph speed is 1700 kg. Calculate the actual power requirement?			
	(A)	37.7 hp	(B)	35.5 hp
	(C)	40.6 hp	(D)	None of these
20.	The vertical clearance of MBP varies from			
	(A)	25-30 mm	(B)	15-20 mm
	(C)	20-25 mm	(D)	6-18 mm
21.	Draft will _____ with speed in most of tillage implements			
	(A)	Increase	(B)	Decrease
	(C)	Same	(D)	None of these
22.	Depreciation of machine is calculated by which method			
	(A)	Straight line method	(B)	Declining balance method
	(C)	Sum of year digits method	(D)	All of the above
23.	A desi plough is working at seed of 2.4 kmph and cutting soil 0.2 m deep and 20 cm wide furrow at top. Calculate the volume of soil cut in 5 hours.			
	(A)	24000 cm <sup>3</sup>	(B)	240 m <sup>3</sup>
	(C)	2400 m <sup>3</sup>	(D)	None of these
24.	PTO stands for			
	(A)	Power transmission shaft	(B)	Power take off
	(C)	Power transmission observation	(D)	Power torque off
25.	Which is the best possible and economical way to sow wheat in combine harvested paddy fields without straw burning?			
	(A)	Happy Seeder technology	(B)	Seed cum fertilizer drill
	(C)	Incorporation of straw by MBP and Disk harrows	(D)	By removing straw by baler
26.	The net energy yielding sources are termed as			
	(A)	Renewable energy sources	(B)	Non-renewable energy sources

	(C)	Primary energy sources	(D)	Secondary energy sources
27.	Solar radiations are allowed to enter through a transparent cover into a shallow brine basin in			
	(A)	Solar cookers	(B)	Solar water pumping system
	(C)	Solar distillation plant	(D)	Solar oven
28.	Biogas can be used solely or with diesel to operate			
	(A)	IC engines	(B)	Sterling engine
	(C)	Heat engines	(D)	Steam engines
29.	The rate of application of bio-digested slurry in irrigated fields is recommended as			
	(A)	2 t/ha	(B)	4 t/ha
	(C)	6 t/ha	(D)	10 t/ha
30.	The principal disadvantage of a flat plate collector is that, the area from which heat loss takes place, is			
	(A)	Small	(B)	Large
	(C)	Constant	(D)	Zero
31.	Working principle of operation for most solar thermal devices is			
	(A)	Greenhouse effect	(B)	Photosynthesis effects
	(C)	Thermo-ionic effect	(D)	Photovoltaic effect
32.	A combination of solar PV cells designed to increase the electric power output is called			
	(A)	Solar system	(B)	Solar array
	(C)	Solar generator	(D)	Solar conductor
33.	The most expensive part of solar photovoltaic power plant is its			
	(A)	Storage system	(B)	Tracking system
	(C)	Mounting system	(D)	Solar modules
34.	Wind machines designed for power generation should have			
	(A)	Large rotors	(B)	Small rotors
	(C)	Square shaped rotors	(D)	Any type of rotors
35.	This is not a type of solar crop dryer			
	(A)	Direct type	(B)	Indirect type
	(C)	Tunnel type	(D)	Regenerating type
36.	Agricultural products rich in starch and sugar can be fermented to produce			
	(A)	Biogas fuel	(B)	Liquid Bio fuel
	(C)	Synthetic fuel	(D)	Fossil fuel
37.	A horizontal surface receives			
	(A)	No reflected component of radiation	(B)	50% of the reflected component of radiation
	(C)	50% of the diffused component of radiation	(D)	50% of the beam component of radiation
38.	The charge carrier available in a semi-conductor material has			
	(A)	Free electrons and holes	(B)	Only electrons
	(C)	Only holes	(D)	Positively charged ions
39.	The optimum solid concentration in a biogas plant digester for optimum biogas production should be			
	(A)	33-39%	(B)	23-29%

	(C)	17-23%	(D)	7-10%
40.	Biogas production rate is not affected by			
	(A)	pH of slurry	(B)	C:N ratio
	(C)	Temperature	(D)	Biogas plant digester shape
41.	Removal of following constituents from biogas is considered necessary before its compressed bottling			
	(A)	CH <sub>4</sub> and water vapours	(B)	Water vapours and H <sub>2</sub> S
	(C)	CO <sub>2</sub> and H <sub>2</sub> S	(D)	H <sub>2</sub> S, CO <sub>2</sub> and water vapours
42.	A domestic solar water heater of 100 lpd can save electricity annually approximately equal to			
	(A)	200kWh	(B)	1000kWh
	(C)	1500kWh	(D)	2000kWh
43.	The percentage of incoming radiation reflected back to space by the earth is			
	(A)	10%	(B)	20%
	(C)	30%	(D)	40%
44.	The calorific value of one cubic meter biogas having 60% methane content may be around			
	(A)	1000 kcal	(B)	3000 kcal
	(C)	2000 kcal	(D)	5000 kcal
45.	For Haryana state, Hydraulic Retention Time (HRT) of a conventional biogas plant is taken as			
	(A)	30 days	(B)	40 days
	(C)	55 days	(D)	75 days
46.	The material contained in the body of living organisms (plants, animals) is called			
	(A)	Biomass	(B)	Fossil fuel
	(C)	Natural energy	(D)	Bio fuel
47.	In screw type machine, the biomass is screwed forward under high pressure through a nozzle to get			
	(A)	Biogas	(B)	Bio fuel
	(C)	Briquettes	(D)	Bio diesel
48.	Upper Convective Zone in a solar pond has			
	(A)	Little salt content	(B)	Highest salt concentration
	(C)	High density gradient	(D)	Higher temperature
49.	Doubling the diameter of a rotor in wind mill will result in			
	(A)	2-fold increase in available wind power	(B)	4-fold increase in available wind power
	(C)	6-fold increase in the available wind power	(D)	8-fold increase in available wind power
50.	Which one of the following is bio-diesel?			
	(A)	Ester	(B)	Methyl ester
	(C)	Ethyl ester	(D)	Propyl ester
51.	In steady state, rate of flow of heat through any cross section of slab is directly proportional to _____.			
	(A)	Length	(B)	Temperature difference
	(C)	Area	(D)	Force

52.	Materials of _____ thermal conductivity are used as thermal insulation.			
	(A)	Low	(B)	Medium
	(C)	Zero	(D)	High
53.	The reciprocal of thermal conductivity is called _____.			
	(A)	Conductance	(B)	Resistance
	(C)	Thermal resistivity	(D)	Thermal emissivity
54.	The molecular transfer equations of Newton's law for fluid _____, Fourier's law for _____ and Fick's law for _____ are very similar.			
	(A)	Momentum, Heat, Viscosity	(B)	Viscosity, Mass, Heat
	(C)	Heat, Momentum, Mass	(D)	Momentum, Heat, Mass
55.	If a liquid enters a pipe of diameter $d$ with a velocity $v$ , what will be its velocity at the exit if the diameter reduces to $0.5d$ ?			
	(A)	$v$	(B)	$0.5v$
	(C)	$2v$	(D)	$4v$
56.	The continuity equation is based on the principle of			
	(A)	Conservation of mass	(B)	Conservation of momentum
	(C)	Conservation of energy	(D)	Conservation of force
57.	----- is used for transporting the large quantities of materials over a very large distance at a low cost			
	(A)	Pneumatic conveyor	(B)	Chain conveyor
	(C)	Screw conveyor	(D)	Belt conveyor
58.	----- moves the granular material in a closed duct by high speed current of air			
	(A)	Belt conveyor	(B)	Pneumatic conveyor
	(C)	Chain conveyor	(D)	Screw conveyor
59.	The capacity of screw conveyor varies with			
	(A)	Screw diameter	(B)	Inclination of screw blade
	(C)	Speed of blade	(D)	All of the above
60.	The main method of preservation of both hot and cold extruded products is by water activity of the product in the range			
	(A)	0.1 to 0.4	(B)	0.2 to 0.6
	(C)	0.3 to 0.7	(D)	0.5 to 0.8
61.	In which type of dryer, food material is maintained suspended against gravity in an up-ward flowing stream			
	(A)	Pneumatic	(B)	Fluidized
	(C)	Trough	(D)	Bin type
62.	During drying of food grains, the falling rate period is bounded by			
	(A)	Moisture content of dry basis	(B)	Moisture content of wet basis
	(C)	Equilibrium Moisture content	(D)	Temperature of the drying medium
63.	When you concentrate orange juice by boiling off the excess water, the unit operation in the process is known as			
	(A)	Distillation	(B)	Evaporation
	(C)	Drying	(D)	Crystallization
64.	During pulse processing the basic operation performed includes			

	(A)	Size reduction	(B)	Shelling and pearling
	(C)	Dehusking and Splitting	(D)	Scrubbing and attrition
65.	Which of the following is not a grinder?			
	(A)	Hammer mill	(B)	Rolling-compression mills
	(C)	Dicers	(D)	Attrition mill
66.	In hammer mill size reduction is due to			
	(A)	Impact only	(B)	Friction only
	(C)	Impact and Shear only	(D)	Impact and friction only
67.	The most efficient process for oil extraction is			
	(A)	Hydraulic pressing	(B)	Expression by oil expeller
	(C)	Solvent extraction	(D)	None of the above
68.	Which of the following is not involved in wheat milling			
	(A)	Sifting	(B)	Polishing
	(C)	Purification	(D)	Break system
69.	Which of the following equipment does not separate material on the basis of size?			
	(A)	Screen separator	(B)	Indented cylinder
	(C)	Spiral separator	(D)	Diverging belts
70.	The estimated losses of food grains in India due to insects is about			
	(A)	1-3%	(B)	5-10%
	(C)	10-12%	(D)	12-15%
71.	In winter season, grains stored in bin will be spoiled at			
	(A)	Top	(B)	Bottom
	(C)	Middle	(D)	Low temperature does not allow any spoilage
72.	When dry bulb and wet bulb temperature are same the RH of the air will be ---%			
	(A)	25	(B)	50
	(C)	75	(D)	100
73.	Which of the following is NOT delivered by modified atmosphere (MA) or controlled atmosphere (CA)?			
	(A)	Delay ripening of fruits	(B)	Toughening and yellowing
	(C)	Incidence of storage disorders	(D)	Retard spread of diseases
74.	'Freeze burn' is a defect which generally occurs in frozen foods. This defect is due to			
	(A)	Osmosis	(B)	Thermal conductivity
	(C)	Enzymatic browning	(D)	Dehydration
75.	Carbon dioxide in MAP has _____ property			
	(A)	Bacteriostatic	(B)	Fungistatic
	(C)	Both (A) and (B)	(D)	None of these
76.	Amount of intercepted rainwater reaching to the ground through bark of a tree is known as:			
	(A)	Surface creep	(B)	Lateral flow
	(C)	Through fall	(D)	Interception
77.	Precise measurement of irrigation water ----- irrigation efficiency			
	(A)	Increases	(B)	Remain unaffected

	(C)	Decreases	(D)	None of the above
78.	One cubic decimeter of volume is equal to -----			
	(A)	100 litres	(B)	1 litre
	(C)	0.001litres	(D)	0.1 litre
79.	Nappenot formed in:			
	(A)	Broad crested weir	(B)	Sharp crested weir
	(C)	Parshall flume	(D)	Cut throat flume
80.	Tracer technique also known as:			
	(A)	Radio active method	(B)	Volumetric method
	(C)	Dilution method	(D)	Flow-area method
81.	For correct water measurement, pipe must flow-----			
	(A)	Half of design discharge	(B)	One fourth of design discharge
	(C)	Partially of design discharge	(D)	Full of design discharge
82.	Dethridge Meter gives discharge measurement			
	(A)	Indirectly	(B)	Graphycally
	(C)	Through Nomograph	(D)	Directly
83.	Inward sloping terraces are used in the areas having:			
	(A)	Low rainfall	(B)	Moderate rainfall
	(C)	High rainfall	(D)	Moderate to High rainfall
84.	The sum of matric and osmotic potential is measured by			
	(A)	Thermocouple psychrometers	(B)	Tensiometers
	(C)	Pressure plate apparatus	(D)	Orifices
85.	The vegetative stage of gullies is			
	(A)	First stage	(B)	Third stage
	(C)	Second stage	(D)	Fourth stage
86.	In cut throat flumes ----- is not present			
	(A)	Throat	(B)	Converging section
	(C)	Diverging section	(D)	Slope
87.	The best soil oxygen percentage to grow crop is -----			
	(A)	10	(B)	20
	(C)	15	(D)	17
88.	Effective size is			
	(A)	D10	(B)	D90
	(C)	D30	(D)	D60
89.	The term groundwater reservoirs and -----can be used interchangeably			
	(A)	Large pores	(B)	Ponds
	(C)	Aquitards	(D)	Aquifers
90.	In plain the maximum allowable length of drip main pipe line is ----- m			
	(A)	100	(B)	80
	(C)	50	(D)	75
91.	The width of corridor in naturally ventilated greenhouse is ----- m			
	(A)	2.5	(B)	3.0
	(C)	2.0	(D)	1.5
92.	NRV is a type of:			

	(A)	Valve	(B)	Filter
	(C)	Elbow	(D)	Bye pass mechanism
93.	Open ditch can also be used as:			
	(A)	Irrigation	(B)	Sub surface drainage
	(C)	Interceptor drain	(D)	Bio drainage
94.	An artesian well can be used			
	(A)	Recharge well	(B)	Drainage well
	(C)	Vertical drainage	(D)	Storage structure
95.	The most dangerous type of erosion is			
	(A)	Rill erosion	(B)	Splash erosion
	(C)	Raindrop erosion	(D)	Sheet erosion
96.	The mole drains are type of:			
	(A)	Surface drainage	(B)	Sub surface drainage
	(C)	Bio drainage	(D)	None of these
97.	Water table is related with:			
	(A)	Perched aquifer	(B)	Confined aquifer
	(C)	Semi confined aquifer	(D)	Unconfined aquifer
98.	Dispersed soil has usually ----- permeability			
	(A)	Low	(B)	Moderate
	(C)	High	(D)	Very high
99.	One thousandth is an equivalent of:			
	(A)	Milliequivalent	(B)	Desiequivalent
	(C)	Kiloequivalent	(D)	Quasiequivalent
100.	The pump and motor has same shaft in:			
	(A)	Belt driven mechanism	(B)	Monoblock
	(C)	Gear driven mechanism	(D)	None of these