

Name:  
Enrolment No:



**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**  
**End Semester Examination, July 2020**

**Program/course: B.Tech (FSE)**  
**Subject: Water Supply, Sanitation and Refugee Health in Emergency Situation**  
**Code : HSFS3014**  
**No. of page/s:2**

**Semester –VI**  
**Max. Marks : 100**  
**ration : 3 Hrs**

Sl No.	Question	Option-1	Option-2	Option-3	Option-4
1	The dead end system , which is also sometimes called Tree	Tree system	Grid Iron System	Bothe	None of these
2	Gridiron system, which is also known as _____.	Reticulation system	Dead end system	both	None of these
3	Lesser number of cut off valves are required in _____.	Reticulation system	Dead end system	Bothe	None of these
4	There are numerous dead ends in this system, which prevent the _____.	Water logging	Water circulation	Water flow	None of these
5	Environmental standards are the limiting values of various pollutants in air, water and soil which are prescribed by..... for different industrial activities.	CPCB/SPCB	CPCB	SPCB	CPPRI
6	The design is difficult and costlier in _____.	Reticulation system	Dead end system	Both	None of these
7	Ring system is also sometimes called _____.	Reticulation system	Dead end system	Circular system	None of these
8	General Guidelines on Principles, Systems and Supporting Techniques Comes under standard.....	ISO 1400	ISO 14010	ISO 14004	ISO 14011
9	In _____, the water from the high levelled source is distributed to the consumers at lower level by the mere action of gravity without any pumping.	Gravitational system	Pumping system	Combined gravity and pumping system	All of the above
10	In _____ the treated water is directly pumped into the distribution mains without storing it anywhere.	Gravitational system	Pumping system	Combined gravity and pumping system	All of the above

11	In _____, the treated water is pumped at a constant rate and stored into an elevated distribution reservoir, from where it is distributed to the consumers by the mere action of gravity.	Gravitational system	Pumping system	Combined gravity and pumping system	All of the above
12	The excess water during low demand periods gets stored in the reservoir and gets supplied during high demand periods in _____.	Gravitational system	Pumping system	Combined gravity and pumping system	All of the above
13	The design is difficult and costlier in _____.	Reticulation system	Dead end system	Both	None of these
14	In _____ the treated water is directly pumped into the distribution mains without storing it anywhere.	Gravitational system	Pumping system	Combined gravity and pumping system	All of the above
15	The third component of the total reservoir storage is the _____.	Fire storage	Breakdown storage	Both	None of these
16	In _____, this method consists in practically observing a wet soft spot on the unpaved ground, or a luxuriously grown in a lawn, or the emergence of a spring at an odd place.	Direct Observation	Plotting hydraulic gradient line	Both of these	None of these
17	By _____, the pressure at various point along a suspected pipe line are measured, and the hydraulic gradient line is plotted.	Direct Observation	Plotting hydraulic gradient line	Both of these	None of these
18	_____ includes the water required in residential buildings for drinking, cooking, bathing, lawn sprinkling, gardening, sanitary purposes etc.	Industrial Water Demand	Domestic Water Demand	Fire Demand	All of these
19	In _____ the treated water is directly pumped into the distribution mains without storing it anywhere.	Gravitational system	Pumping system	Combined gravity and pumping system	All of the above
20	Institutional and Commercial water demand includes, the water requirements of institutions, such as hospitals, hotels, restaurants, schools, colleges etc.	Institutional and Commercial water demand	Industrial Water Demand	Domestic Water Demand	All of the above

21	The dead end system , which is also some times called _____	Tree system	Grid Iron System	Bothe	None of these
22	_____ includes the quantity of water required for public utility purposes, such as watering of public parks, gardening, washing and sprinkling on roads etc.	Demand for public uses	Institutional and Commercial water demand	Industrial Water Demand	Combined gravity and pumping system
23	Ring system is also sometimes called _____ .	Reticulation system	Dead end system	Circular system	None of these
24	The annual average demand for water is generally ranges between for Indian conditions.	100 to 360 liters/capita/day	100 to 460 liters/capita/day	200 to 360 liters/capita/day	150 to 360 liters/capita/day
25	As per IS : 1172-1963, water required per head per day for average domestic purposes, is _____	120 liters	135 liters	75 liters	195 liters
26	Most commonly used pump for lifting water in water supply mains, is _____	axial-flow pump	reciprocating pump	rotary type pump	centrifugal pump
27	In distribution pipes, drain valves are provided at _____	lower point	higher joint	junction points	anywhere
28	Which type of pump should be selected in order to pump the sewage from a septic tank to the water treatment system?	Vertical Sump Pump	Progressive Cavity Pump	Submersible Pump	Screw Pump
29	Which type of pump is used while handling the sludge disposal system?	Screw Pump	Multistage Pump	Self-priming Pump	Vertical Pump
30	Aeration of water is done to remove _____	odour	colour	hardness	turbidity
31	The fire demand for a city of 50,000 populations, according to Goodrich formula, is _____	40 mld	42 mld	44 mld	48 mld
32	Overall efficiency of a centrifugal pump is the ratio of _____	Energy available at the impeller to the energy supplied to the pump by the prime mover	Actual work done by the pump to the energy supplied to the pump by the prime mover	Energy supplied to the pump to the energy available at the impeller	Manometric head to the energy supplied by the impeller per Newton of water
33	Pick up the incorrect statement from the following regarding fire hydrants	Fire hydrants are fitted in water mains at 100 m to 150 m apart at fire	The minimum water pressure hydrants, is kept 1.5 kg/cm <sup>2</sup>	The water at pressure 1 to 1.5 kg/cm <sup>2</sup> is made available for 4 to 5 hours for constant use	None of these

34	Distribution mains of any water supply, is normally designed for its average daily requirement	100%	150%	200%	225%
35	In pressure supply mains, water hammer pressure is reduced by providing	sluice valves	air valves	pressure relief valves	none of the these
36	The formula, $F = R - K (1.8 T + 32)$ , for obtaining the annual run-off is known as	Justin's formula	Vermule's formula	Inglis formula	Khosla's formula
37	Turbidity of water is expressed in terms of	Silica scale	Platinum cobalt scale	PO value	None of these
38	The maximum acidity in water will occur at a pH value of	0	2	7	14
39	The process of killing pathogenic bacteria's from water is called	Sedimentation	Filtration	Coagulation	Disinfection
40	Distribution system consists of	pipelines	valves	hydrants	All of the above
41	Requirements of a good distribution system does not involve	capable of supplying water at all the intended places	capable of supplying the requisite amount of water for fire fighting during such needs	should be cheap with least construction cost	should be complicated to operate and repair
42	Which of these is sometimes called tree system	Dead end system	grid iron system	ring system	radial system
43	Advantages of dead-end system includes	the distribution network can solved easily	large number of cut-off valves required	shorter pipe-lengths are needed	it is cheap and simple
44	Which of these systems are also known as reticulation system	Dead end system	grid iron system	ring system	radial system
45	Disadvantages of grid iron system includes	this system requires more length of pipe lines	Its construction is costlier	the design is difficult and costlier	All of the above
46	Which of these systems is also known as circular system	Dead end system	grid iron system	ring system	radial system
47	Which system is very suitable for towns and cities having well planned roads	Dead end system	grid iron system	ring system	radial system
48	Methods used for detecting the leakage of water from the underground mains does not include	by indirect observations	by using sounding rods	by plotting hydraulic gradient line	by using waste detecting meters
49	Drinking, bathing, cooking, washing of utensils, washing and cleaning of houses comes under which type of water demands	Domestic water demands	Industrial water demand	institutional and commercial water demand	demand for public uses

50	The ordinary per capita consumption on account of industrial needs of a city is generally taken as ___ litre/person/day	60	50	75	40
51	Factors affecting per capita demand of a city does not include	size of the city	climatic conditions	types of gentry and habits of people	population of the city
52	Water required for watering of public parks, gardening washing and sprinkling on roads comes under which type of water demands	Domestic water demands	Industrial water demand	institutional and commercial water demand	demand for public uses
53	The various factors on which the losses of enormous amount of good water depends on	Water tight joints	pressure in the distribution system	system of supply	All of the above
54	The per capita demand of water is represented by the symbol	p	q	r	s
55	The _____ are dependent upon the industrialization and commercialization of the particular cities or town.	Births	birth rates	migrations	None of the above
56	The census of a country generally carried out at an interval of ___ years.	5	10	12	15
57	Three factors responsible for changes in population does not involve	Births	Deaths	Jobs	Migrations
58	Birth rates may decrease due to	excessive family planning's practices	legalized abortions	Jobs	Both And B
59	With reference to water distribution system, _____ is used for providing connections with the water mains for releasing water during fires.	pipelines	hydrants	meters	valves
60	_____ is used for carrying water to the streets.	pipelines	hydrants	meters	valves
61	_____ is used for lifting and forcing the water into the distribution pipes.	pumps	pipelines	hydrants	valves
62	_____ is used for storing the treated water to be fed into the distribution pipes.	pumps	service reservoirs	pipelines	hydrants
63	With reference to distribution pipes, _____ are placed along	sluice valves	drain valves	air valves	None of the above

	the straight length of the pipes at suitable intervals.				
64	Disadvantages of the dead end distribution system includes	damage or repair in any pipeline will completely stop the water supply in the area	there are numerous dead ends in this system	the supplies during fire fighting cannot be increased	All of the above
65	Advantages of grid iron system involves	in case of repairs, very small area will be devoid of complete supply	water remains in continuous circulation and not liable to pollution due to stagnation	during fires, more water can be diverted towards the affected points	All of the above
66	In this system, a closed ring, either circular or rectangular, of the main pipes, is formed around the area to be served	dead end system	grid iron system	ring system	radial system
67	Water may be forced into the distribution system in which ways	by gravitational system	by pumping system	by combined gravity and pumping system	None of the above
68	This system of distribution system is designed so as to leave only the minimum permitted available head to the consumer, and the rest is consumed in frictional and other losses	by gravitational system	by pumping system	by combined gravity and pumping system	None of the above
69	In this system, the treated water is directly pumped into the distribution mains without storing it anywhere	by gravitational system	by pumping system	by combined gravity and pumping system	None of the above
70	This method combines pumping as well as gravity flow, is called	by gravitational system	by pumping system	by combined gravity and pumping system	None of the above
71	Under normal conditions in India, we may store about _____liters per person per day as the necessary fire storage	1 to 10	1 to 8	1 to 5	1 to 4
72	This method of detection of leakage in the underground distribution pipes consists practically observing a wet spot on the paved ground or the emergence of a spring at an odd place.	by direct observations	by using sounding rods	by patrolling hydraulic gradient line	by using waste detecting meters

73	In this method of detection of leakage in the underground distribution pipes, a sharp pointed metal rod is thrust into the ground along the pipeline and pulled up for inspection.	by direct observations	by using sounding rods	by patrolling hydraulic gradient line	by using waste detecting meters
74	A per capita demand of ___ litres/head/day is usually considered to be enough to meet commercial and institutional water requirements.	20	30	40	50
75	water requirements of hospitals, hotels, restaurants, schools and colleges falls under which type of water demand	Domestic water demand	Industrial water demand	institutional and commercial water demand	demand for public uses
76	The annual average daily consumption of a _____ is called per capita demand.	person	city	state	country
77	_____ communities generally consume more water compared to other peoples.	rich and upper class people	middle class people	poor slum dwellers	None of the above
78	Which of the following does not form a factor affecting per capita demand	Industrial and commercial activities	quality of water supplies	pressure in distribution system	drinking abilities of men
79	Water losses in thefts and wastes includes	bad plumbing	damaged meters	stolen water due to unauthorized connections	All of the above
80	Water tax is generally charged for	on the basis of meter reading	on the basis of certain fixed monthly flat rate	on the basis of water wasted	Both And B
81	The water quality index (WQI) is used by man to evaluate and compare waters the world over. Which of the nine tests is weighted the highest?	nitrates	O2	pH	phosphates
82	Which holds more DO (Dissolved Oxygen)?	water at 20° C	water at 10° C	. water at 5° C	water at 25° C
83	Which of the following is not a result of cultural eutrophication of a lake?	increased algal blooms	decreased species diversity	increased sedimentation	increased transparency
84	Bacteria and micro organisms present in the water will cause _____ in human and animals.	Indigestion	Intestinal tract	Brain tumour	Cancer
85	Infectious hepatitis is caused by _____	Viruses	Bacteria	Protozoa	Helminth

86	Amoebic dysentery is caused by _____	Viruses	Bacteria	Protozoa	Helminth
87	Bacteria in water causes _____	Malaria	Typhoid	Dengue	Chicken guinea
88	The _____ is an important requirement of the aquatic life.	Dissolved nitrogen	Dissolved chlorine	Dissolved oxygen	Dissolved methane
89	Hard water is a term commonly used to describe _____	groundwater found arid areas	water with many dissolved ions	water distilled from acid rain	water from polluted water
90	Domestic water treatment is carried out under _____ conditions.	Aerobic	Anaerobic	Cannot be known	Depends on the pollution level of water
91	What is the pH range of effluent after treatment?	Between 4.4 and 5.5	Between 4.8 and 6.1	Between 6.8 and 7.8	Between 7.8 and 8.3
92	Waste water released from _____ are not the sources of bacteria.	Sanitaria	Municipalities	Tanning	Industries
93	The disappearance of the plants and animals is due to the _____ in water.	Nitrogen depletion	Chlorine depletion	Oxygen depletion	Ozone depletion
94	The process in which water is passed through filter beds of sand and gravel to remove smaller particles of dust is called _____	coagulation	filtration	chlorination	sediment
95	A process of contact and adhesion whereby the particles of a dispersion form larger-size clusters is called _____	coagulation	flocculation	suspension	sedimentation
96	The chlorine, which serves as a disinfectant is _____	Free chlorine	Free Residual chlorine	Chlorine demand	Residual demand
97	The process of reducing the fluoride content from water is called _____	Chlorination	Fluoridation	DE fluoridation	Flocculation
98	. Which material is used for removing fluorides from hard water containing 3ppm of fluorides?	lime	Copper sulfate	Synthetic tri-calcium phosphate	Bone charcoal
99	The speed at which the centrifugal pump runs (in r.p.m) is _____	200	300	500	1200
100	The average quantity of water (in lpcd) required for domestic purposes according to IS code is _____	100 lpcd	120 lpcd	135 lpcd	70 lpcd