



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Diploma in Civil Engineering

Course Name – Environmental and Public Health Engineering

Course Code - DCE603

(Semester VI)

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) At what concentration can the taste and smell of sulphur dioxide be detected?

a) 0.5-0.9ppm	b) 1-3ppm
c) 0.1-0.3ppm	d) None of the above
- (2) Which of the following is the cause of soil pollution?

a) Ozone	b) Aerosol
c) Acid rain	d) None of the above
- (3) At what time of the day relative humidity in the environment is at minimum?

a) When the air temperature is lowest	b) Before sunrise
c) Midnight	d) When the air temperature is higher
- (4) Which of the following is a renewable source of energy?

a) Coal	b) Uranium
c) Wind	d) None of the above
- (5) Which of the following has a maximum speed?

a) Light	b) Air
c) Sound	d) Water current
- (6) CNG stands for -

a) Common Natural gas	b) Compressed National gas
c) Compressed Natural gas	d) Certified National gas
- (7) The year declared as the "water year" by the Indian Government is -

a) 2007	b) 1999
c) 1998	d) 1997

- (8) Which type of water is generally used in the treatment of water?
- | | |
|----------------------|--------------------|
| a) Chlorinated water | b) Treated water |
| c) Raw water | d) Sulphated water |
- (9) In office building what is the requirement of a water closet for 50 persons?
- | | |
|-------|-------|
| a) 2 | b) 10 |
| c) 11 | d) 12 |
- (10) Wastewater from different sources like bathrooms, kitchens and wash basins is called _____
- | | |
|------------|--------------|
| a) Sewage | b) Garbage |
| c) Sullage | d) Discharge |
- (11) What is the minimum diameter of pipes used for drainage of waste water?
- | | |
|----------|---------|
| a) 75 mm | b) 10mm |
| c) 12mm | d) 13mm |
- (12) In slow sand filters, the turbidity of raw water can be removed only up to _____ - (mg/litre)
- | | |
|--------|--------|
| a) 125 | b) 100 |
| c) 150 | d) 60 |
- (13) Acidity in water is caused due to
- | | |
|------------------|-------------------------|
| a) Mineral acids | b) Free CO ₂ |
| c) Iron sulphate | d) All the above. |
- (14) Pick up the incorrect statement from the following regarding fire hydrants
- | | |
|--|--|
| a) Fire hydrants are fitted in water mains at 100 m to 150 m apart at fire | b) The minimum water pressure hydrants, is kept 1.5 kg/cm ² |
| c) The water at pressure 1 to 1.5 kg/cm ² is made available for 4 to 5 hours for constant use | d) None of these. |
- (15) B.O.D. of treated water should be
- | | |
|-----------|-----------|
| a) 10 ppm | b) 12 ppm |
| c) 20 ppm | d) Nil |
- (16) If pH value of water is
- | | |
|--|--|
| a) 7 water it is said to be neutral | b) less than 7 it is said to be acidic |
| c) more than 7 it is said to be alkaline | d) all the above. |
- (17) Corrosion of a pipe
- | | |
|--------------------------|----------------------------------|
| a) reduces its life span | b) reduces its carrying capacity |
| c) adds colour to water | d) all the above. |
- (18) Asbestos pipes are
- | | |
|---|--|
| a) high flexible to accommodate deflection upto 12° | b) light in weight and easy to transport |
| c) highly resistant to corrosion | d) all the above. |
- (19) According to IS : 1172-1963, a minimum of 135 litres of water capita per day, is required for
- | | |
|---------------------|-------------------------------------|
| a) Boarding schools | b) Nurses home and medical quarters |
| c) hostels | d) All the above. |
- (20) Disinfection of drinking water, is done to remove

- a) odour
c) turbidity
- b) bacterias
d) colour.
- (21) The fire demand of a city may be worked out by
a) Kuichling's formula
c) Bustan's formula
- b) Freeman formula
d) All the above.
- (22) Aerobic bacteria
a) flourish in the presence of free oxygen
c) oxidise organic matter in sewage
- b) consume organic matter as their food
d) All the above
- (23) What is the minimum percentage of solids in wastewater?
a) 0.35
c) 0.65
- b) 0.4
d) 0.55
- (24) What is the minimum required the temperature to categorize as volatile solids?
a) 550 C
c) 650 C
- b) 600 C
d) 450 C
- (25) What is the maximum pH that the bacteria can sustain in terms of alkalinity?
a) 6
c) 8
- b) 7
d) 8.5
- (26) How many types of health hazards are there?
a) 2
c) 4
- b) 3
d) 6
- (27) How many percentage of water approximately present in human body?
a) 0.55
c) 0.7
- b) 0.65
d) 0.85
- (28) What is the water from urinals called?
a) Black water
c) Grey water
- b) Yellow water
d) Red water
- (29) What is the typical amount of grade required per linear foot on a household drainage pipe?
a) 1/8 inch
c) 1/6 inch
- b) 1/4 inch
d) 1/2 inch
- (30) The process of changing the solid into a liquid by supplying the heat is called as -
a) Melting
c) Boiling
- b) Evaporation
d) Condensation
- (31) Which gas is mainly produced due to incomplete burning of wood?
a) CO
c) NO2
- b) SO2
d) NO3
- (32) X ray films are a source of which of the following gas?
a) CO
c) NO2
- b) SO4
d) NO3
- (33) Which of the following is a secondary air pollutant?
a) CO
c) NO2
- b) SO2
d) NO3
- (34) What is the temperature limit of the plastic pipe

- c) Soak pit
 (48) "In the two-pipe system for the drainage of buildings, the discharge from the waste pipe is disconnected from the drain by using _____"
 a) Gully trap
 c) Silt trap
- d) Houses
 b) Floor trap
 d) Grease trap
- (49) "As per IS : 1172-1963, water required per head per day for average domestic purposes, is"
 a) 25litres
 c) 50 litres
- b) 70 litres
 d) 135 litres
- (50) "Most satisfactory formula for an estimate of fire demand Q for a city of population 'P' in thousands for Indian conditions, is"
 a) $Q = 1138 \sqrt{P}$
 c) $Q = 3180 \sqrt{P}$
- b) $Q = 1640 \sqrt{P} (1 - 0.01 \sqrt{P})$
 d) $Q = 1180 \sqrt{P}$
- (51) Turbidity of raw water is a measure of
 a) solids
 c) B.O.D
- b) Acidity of water
 d) None of these
- (52) "The factor affecting per capita demand, is"
 a) Size of the city
 c) Climatic conditions
- b) Pressure in water mains
 d) All the above
- (53) The process of changing the solid into a liquid by supplying the heat is called as –
 a) Melting
 c) Boiling
- b) Evaporation
 d) Condensation
- (54) Why carbon dioxide is called a greenhouse gas?
 a) Because they absorb heat
 c) Because they absorb oxygen
- b) Because they absorb moisture
 d) Because they absorb hydrogen
- (55) Which is the first zone of purification in a sand bed?
 a) Heterotrophic zone
 c) Electrolytic zone
- b) Schmutzdecke zone
 d) Autotrophic zone
- (56) What does the phrase "anthropogenic CO₂ emissions" mean?
 a) Natural CO₂ emissions
 c) Industrial CO₂ emissions
- b) Human made CO₂ emissions
 d) All of the mentioned
- (57) Which process of water treatment is done to avoid floating debris, branches, trees, or other large particles suspended in water?
 a) Primary sedimentation
 c) Screening
- b) Secondary sedimentation
 d) Aeration
- (58) When Environmental Lapse Rate (ELR) is greater than Adiabatic Lapse Rate (ALR), then which of the following occurs?
 a) Super adiabatic lapse rate
 c) Adiabatic lapse rate
- b) Neutral lapse rate
 d) Sub adiabatic lapse rate
- (59) Which of the following gas is released when alum is added to water?
 a) Ca (OH)₃
 c) Al (OH)₃
- b) CO₂
 d) CaSO₄
- (60) Which of the following is not commonly used as a filter material in the treatment of water?

- a) Garnet sand
- c) Sand

- b) Crushed rock
- d) Anthracite