

Uka Tarsadia University (Diwaliba Polytechnic)
Diploma in Environmental Engineering
Objective Type Questions (Sanitary Engineering)

Unit 1

- 1) Which system is also called dry system?
 - a) Conservancy system
 - b) Water carriage system
 - c) Non conservancy system
 - d) Separate system
- 2) _____ is to provide a healthy living environment for everyone to protect the natural resources.
 - a) Sewer
 - b) Sanitation
 - c) Sullage
 - d) None of above
- 3) _____ storm water are collected, conveyed and disposed off separately by different methods.
 - a) Refuse
 - b) Reuse
 - c) Collected
 - d) None of above
- 4) Conservancy system is cheap in initial cost.
 - a) True
 - b) false
- 5) The wastewater from bathroom, kitchen is called
 - a) Refuse
 - b) sullage
 - c) sewage
 - d) Garbage
- 6) The pipe installed for the purpose of ventilation is known as
 - a) vent pipe
 - b) waste pipe
 - c) soil pipe
 - d) invert

- 7) The liquid waste conveyed by sewer is known as
- a) Sewer
 - b) sewage
 - c) sewerage
 - d) all of the above
- 8) What is included in dry waste?
- a) rubbish
 - b) garbage
 - c) ashes
 - d) all of the above
- 9) Sewer which obtains its discharge directly from buildings is known as
- a) lateral sewer
 - b) main sewer
 - c) Trunk sewer
 - d) common sewer
- 10) All solid waste such as paper, leaves, gases, broken furniture are included as
- a) rubbish
 - b) ashes
 - c) garbage
 - d) sewage
- 11) What are the advantages of conservancy system?
- a) cheaper in initial cost
 - b) quantity of sewage reaching treatment is less.
 - c) both a and b
 - d) none of the above
- 12) Which is collection system pattern?
- a) Fan pattern
 - b) circle pattern
 - c) radius pattern
 - d) rectangular pattern
- 13) One set of sewers is laid carrying both sanitary sewage and storm water is called
- a) combined sewer
 - b) conservancy system
 - c) separate system
 - d) garbage
- 14) Combustible portion of garbage such leaves, waste paper, broken furniture are _____.
- a) kill
 - b) burn
 - c) dispose

- d) none of above
- 15) liquid and semi liquid waste are collected in separate _____.
a) sewer
b) drain
c) dump
d) none of above
- 16) _____ is disposed of without any treatment it may pollute natural water course.
a) sewage
b) drain
c) collection system
d) all of above
- 17) water seal of traps may break due to _____ action.
a) non siphonic
b) siphonic
c) burial
d) incinerator
- 18) pipe which is installed in the house drainage to preserve water seal of traps is known as _____ .
a) Anti - siphonage pipe
b) Vent pipe
c) Soil pipe
d) Waste pipe
- 19) Pipe installed for the purpose of ventilation is known as _____.
a) siphonage pipe
b) soil pipe
c) vent pipe
d) all of above
- 20) Which is merit of conservancy system?
a) cheaper initial cost because storm can pass in open drains
b) it is area consuming process
c) it is required more time to set the particle
d) all of above
- 21) which is merit of water carriage system?
a) one sewer is laid therefore it occupies less space in crowded lane.
b) Maintaining and sustaining sanitation has aspects that are technological
c) which is commonly abbreviated to ecosan, is an approach, rather than a technology or a device
d) none of above

- 22) which system is sewerage system?
- a) conservancy
 - b) combined
 - c) water carriage
 - d) none of above
- 23) one set of sewers is laid carrying both
- a) partially and sewerage system Called sullage
 - b) waste to treat and recover called sewer
 - c) sanitary sewage and storm water called combine system
 - d) none of above
- 24) Combined system is more suitable in _____ streets.
- a) narrow
 - b) broad
 - c) other
 - d) none of above
- 25) Decaying fruits and vegetables, grass and other such things are first dried and then disposed of _____ .
- a) Landfilling
 - b) Treated
 - c) Burning
 - d) None of above
- 26) Human Excreta or Night Soil is _____ separately in privies or conservancy latrines.
- a) collected
 - b) treated
 - c) conserved
 - d) dispose
- 27) In floods if the water level of river rises at the out-fall it will not be _____ to pump the sewage for disposal.
- a) Cheaper
 - b) Costly
 - c) Buying
 - d) None of above
- 28) _____ water carriage system provides only one sewer to carry both the foul sewage as well as the rainwater.
- a) Separate
 - b) Partial
 - c) Combined
 - d) None of above
- 29) Quantity of water exceeds a certain limit the water overflows this water is collected and conveyed in _____ drains to the natural streams.

- a) Open
 - b) Close
 - c) a and b both
 - d) none of above
- 30) Water carriage system consist _____ of water and remaining of _____ solid matter.
- a) 99.8, 0.2 %
 - b) 99.9, 0.1 %
 - c) 78, 0.7 %
 - d) 99.7, 0.3 %
- 31) water carriage system is the most modern and _____ system of sewage disposal.
- a) hazard
 - b) fire
 - c) hygienic
 - d) easy
- 32) _____ and rainwater carried to the sewage treatment plant before its final disposal.
- a) sewage
 - b) conservancy
 - c) partial
 - d) none of above
- 33) Rain water can be _____ into streams or rivers without any treatment.
- a) separate
 - b) discharged
 - c) particles remove
 - d) none of above
- 34) sewage and rain water are carried to the sewage treatment plant before its final _____.
- a) disposal
 - b) collected
 - c) conserve
 - d) none of above
- 35) _____ water flow is the additional flow that would occur during the rainy season.
- a) storm
 - b) sewage
 - c) combined
 - d) partial
- 36) Dry weather flow is also sometimes called as _____ .
- a) storm sewage
 - b) sanitary sewage
 - c) partial system
 - d) none of above

- 37) water is used as medium to convey the waste from its point of production to the point of its treatment of final _____.
a) disposal
b) collect
c) restore
d) convey
- 38) water is supplied at high pressure there is more _____ of water and more wastage of water from leakage in pipes, valves, etc.
a) destroy
b) consumption
c) Recover
d) Treat
- 39) _____ system in which various types of wastes such as night soil, garbage etc are collected separately in vessels.
a) Old
b) New
c) Separate
d) Medium
- 40) _____ are responsible for its collection, conveyance and disposal.
a) plant
b) human
c) method
d) none of above
- 41) Human excreta is removed by the flushing _____ litres of water by each person.
a) 6 – 12
b) 13 -20
c) 5 – 10
d) 2 -4
- 42) Outfall sewer is a sewer that carries the _____ from collecting systems. a)
sewage
b) separate
c) destroyed
d) none of above
- 43) _____ system includes the capture, storage, transport, treatment and disposal or reuse of human excreta and wastewater.
a) Storage
b) Sanitation
c) Sewer
d) None of above
- 44) Sewerage is the infrastructure that conveys sewage or _____ runoff using sewers.

- a) surface
- b) drain
- c) collection
- d) all of above

45) Dry weather flow refers to the wastewater flow in a sewer system during periods of dry weather with minimum _____.

- a) Off filtration
- b) On filtration
- c) Infiltration
- d) None of above

46) Bacteria in human waste such as E. coli can infect the _____ and cause disease.

- a) water
- b) disposal
- c) collection
- d) storage

47) _____ can come from anywhere while _____ only comes from the toilet.

- a) wastewater
- b) sewage
- c) combined
- d) a and b both

48) _____ can be treated close to where the sewage is created which may be called a decentralized System.

- a) Sewage
- b) Disposal
- c) Treat
- d) None of above

49) Poor _____ is linked to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio.

- a) Sewerage
- b) Sanitation
- c) Disposal
- d) None of above

50) _____ sewer system is to protect water quality and public health.

- a) sanitary
- b) sewer
- c) disposal
- d) none of above

- 1) How do you calculate the amount of sewage?
 - a) Quantity= Per capita sewage contributed per day x Population
 - b) Quantity = flow x velocity
 - c) Quantity = quality/weight
 - d) None of above
- 2) What are the sources of sanitary sewage?
 - a) toilet fixtures, dishwashers
 - b) paper, plastic
 - c) construction material, household item
 - d) none of above
- 3) What are the different types of sewage?
 - a) Recycle and restore
 - b) treated and untreated
 - c) biological and physical
 - d) none of above
- 4) water supplied to public for _____purpose by local authority.
 - a) Industrial
 - b) Construction
 - c) Domestic
 - d) All of above
- 5) _____ flow curve is closely parallel to water consumption curve.
 - a) Sewage
 - b) Collect
 - c) Storage
 - d) Sullage
- 6) Which method is used to determine the storm flow?
 - a) Arithmetic
 - b) Sag curve
 - c) Decrement decrease
 - d) Rational
- 7) Which formula used for rational method?
 - a) $Q = C. i. A$
 - b) $Q = I / v$
 - c) $Q = w / A$
 - d) All of above
- 8) peak rate of runoff is a function of average _____ intensity during the time of concentration.
 - a) Hour
 - b) Flow
 - c) Rainfall
 - d) Concentration

- 9) _____ of the water supply may be expected to reach the sewers.
- a) 80 %
 - b) 70 %
 - c) 65 %
 - d) 40 %
- 10) Maximum daily flow = 2 x _____.
- a) Regular flow
 - b) Average daily flow
 - c) Per capita flow
 - d) Per consumption flow
- 11) construction of sewage treatment plant may be carried out in phases with an initial design period ranging from _____ years excluding the construction period.
- a) 8 to 12
 - b) 13 to 18
 - c) 5 to 10
 - d) 6 to 8
- 12) Which factor affecting for storm sewage?
- a) Slope and shape of catchment area
 - b) Calculate quantity
 - c) Flow and velocity
 - d) All of above
- 13) Which method is sewage disposal system?
- a) Storage
 - b) Natural
 - c) Artificial
 - d) b and c both
- 14) _____ of storm water is function of area.
- a) Quantity
 - b) Quality
 - c) Power
 - d) Energy
- 15) All types of flow are designed on the basis of having the _____ characteristics of water.
- a) Velocity
 - b) Flow
 - c) Quality
 - d) Capacity
- 16) Average rate of _____ consumption can be related to the average sewage flow from domestic, commercial and industrial sources.

- a) Water
 - b) Velocity
 - c) Quality
 - d) Quantity
- 17) Method is widely used for determining design flows in urban and small watersheds.
- a) Rational
 - b) Arithmetic
 - c) Geometric
 - d) All of above
- 18) _____ intensity “ I ” is the amount of rainfall measured in inches per hour that would be expected to occur during a storm of a certain duration.
- a) Rational
 - b) Water
 - c) Rainfall
 - d) None of above
- 19) Time of concentration at any point in a sewer system is.....
- a) the time required for runoff from the most remote portion of the drainage area to reach that point.
 - b) storm frequency is the time in years in which a certain storm would be expected again
 - c) there are frequency of health and environment flow
 - d) none of above
- 20) Surface run-off resulting after _____ contributes to the storm water.
- a) Storage
 - b) Precipitation
 - c) Coagulation
 - d) Filtration
- 21) _____ of storm water reaching to the sewers or drains is very large as compared with sanitary sewage.
- a) Quantity
 - b) Quality
 - c) Runoff
 - d) Precipitation
- 22) _____ intensity could be measured by using rain gauges and recording the amount of rain falling in unit time.
- a) Water
 - b) Precipitation
 - c) Rainfall
 - d) Hours
- 23) The rain gauges used can be manual recording type or _____ recording rain gauges.
- a) Automatic

- b) Manual
 - c) Duration
 - d) None of above
- 24) Quantity of _____ water is considered as function of intensity of rainfall and coefficient of runoff.
- a) Sewer
 - b) Combined
 - c) Storm
 - d) None of above
- 25) The runoff will be maximum, when the duration of rainfall is equal to the time of concentration and is called as _____ rainfall duration.
- a) Critical
 - b) Maximum
 - c) Minimum
 - d) None of above
- 26) Which method used for quantity of storm water?
- a) Increase method
 - b) Empirical formula method
 - c) Coefficient method
 - d) All of above
- 27) Rate of water supply is expressed as _____ .
- a) Litre/capita/hr
 - b) Litre/hour/capita
 - c) Litre/capita/day
 - d) None of above
- 28) Empirical formulae are used for determination of runoff from very area.
- a) Large
 - b) Small
 - c) Medium
 - d) None of above
- 29) Intensity of rainfall in design is usually in the range_____ .
- a) 1 to 10 mm/hr
 - b) 12 to 20 mm/hr
 - c) 21 to 30 mm/hr
 - d) 31 to 40 mm/hr
- 30) Domestic or sanitary sewage produced will usually be slightly less than the ____of water supplied.
- a) Quantity
 - b) Quality
 - c) Storage

- d) Ratio
- 31) Quantity of groundwater or subsoil water may _____ into sewers through defective joints, broken pipe and other similar entry points.
- a) Out filtrate
 - b) Infiltrate
 - c) exfiltrate
 - d) Down filtrate
- 32) _____ may occur through defective joints, broken pipe, etc.
- a) Exfiltration
 - b) Infiltration
 - c) On filtration
 - d) None of above
- 33) exfiltration is _____ of infiltration.
- a) Irreverse
 - b) Reverse
 - c) Combine
 - d) no combine
- 34) Quantity of industrial sewage may also be assumed to be approximately equal to ...
- a) about 80 to 90% of the quantity of water supplied through public water supply system
 - b) about 50 to 60 % water supplied in pipeline
 - c) infiltration is 10000 litres per day per hectare and if the sewer serves
 - d) none of above
- 35) Design the sewerage schemes as well as to dispose a _____ sewage efficiently.
- a) Untreated
 - b) Treated
 - c) Household
 - d) None of above
- 36) Infiltration equals to average rate of water consumption which is _____ litre/head /day according to Indian Standards.
- a) 180
 - b) 140
 - c) 135
 - d) 134
- 37) Per capita sewage generation can be considered as _____ % of the per capita water supplied per day.
- a) 75 – 80
 - b) 65 -70
 - c) 45 – 55

d) 50 – 60

38) Increase in _____ also result in increase in per capita water demand and hence per capita production of sewage.

- a) Ratio
- b) Population
- c) Hour
- d) Time

39) _____ of sanitary sewage directly depends on the population.

- a) Quantity
- b) Quality
- c) Capita
- d) Flow

40) _____ is water carried waste in solution or suspension that is intended to remove from community.

- a) Sewer
- b) Sewage
- c) Combined
- d) Separate

41) System of pipes used to collect any carry rain waste away for treatment and disposal is called _____.

- a) sewerage
- b) combined
- c) separate
- d) household

42) Storm sewer is comparatively new installation made necessary because of _____ treatment.

- a) Sewage
- b) Plant
- c) Paint
- d) Textile

43) Sewer are made to carry only storm water and may terminate at _____ drainage area.

- a) Artificial
- b) Natural
- c) Household
- d) None of above

44) In sewer system will cause operation and maintenance problems with frequent due to silting in absence of self-cleaning velocity.

- a) Settling
- b) Perchlorate
- c) Clogging

- d) None of above
- 45) _____ capacity allowance must be made for groundwater infiltration.
- a) Conveyance
 - b) Drainage
 - c) Inflow
 - d) Outflow
- 46) Smaller in _____ are installed at shallower depth than conventional sewers.
- a) Diameter
 - b) Depth
 - c) Velocity
 - d) Flow
- 47) Time of concentration is defined as the flow time from the most remote point in the area to the point under consideration.
- a) Storage
 - b) Flow
 - c) Discharge
 - d) Combined
- 48) Sanitary sewers and storm sewers are _____ underground sewer systems.
- a) Separate
 - b) Combined
 - c) Partial
 - d) None of above
- 49) Treated sewage refers to wastewater or sewage which has _____ through a treatment plant.
- a) Combined
 - b) Passed
 - c) Anyway
 - d) None of above
- 50) Fertilizers such as nitrogen and phosphates encourage _____ growth which blocks sunlight and affects the quality of the water.
- a) Algae
 - b) E. coli
 - c) Pseudomonas
 - d) Leak

Unit 3

- 1) Peak hourly flow and peak infiltration allowances for the entire service area are used for the _____ of new sanitary sewers.
- a) Design
 - b) Treat

- c) Criteria
 - d) Flow
- 2) Sewers are designed to carry the _____ quantity of sanitary sewage likely to be produced from the area contributing to the particular sewer.
- a) Minimum
 - b) Maximum
 - c) Reverse
 - d) Non reverse
- 3) _____ should be easily in construction and maintenance.
- a) Sewerage
 - b) Combined
 - c) Drain
 - d) None of above
- 4) Sewers with diameter less than _____m are designed to run half full at maximum discharge.
- a) 0.4
 - b) 0.8
 - c) 0.9
 - d) 1.0
- 5) Sewers are designed to flow _____full at maximum discharge.
- a) $1/3$ to $3/2$
 - b) $2/3$ to $3/4$
 - c) $4/6$ to $5/7$
 - d) None of above
- 6) _____ are generally connected with natural drainage channels such as rivers or streams.
- a) Drains
 - b) Sewerage
 - c) Combined
 - d) Separate
- 7) Drains off the ground surface into the drainage system is known as the coefficient.
- a) Close
 - b) Open
 - c) Runoff
 - d) Sewer
- 8) _____ could damage the drain.
- a) Storage
 - b) Erosion
 - c) Global warming
 - d) Acid rain

- 9) Building a drainage channel with sloping sides and a narrow bottom helps to maintain a _____ flow speed whatever the water level in the channel.
- a) Different interval
 - b) Steady
 - c) Narrow
 - d) Broad
- 10) _____ drains are a less expensive solution.
- a) Open
 - b) Close
 - c) Rectangular
 - d) Horizontal
- 11) Open drain is very often used illegally for the _____ of domestic or industrial wastewater.
- a) Storage
 - b) Discharge
 - c) Reuse
 - d) Recycle
- 12) Open drains are easy to _____ and if there are existing drains it is a lowcost solution.
- a) Construct
 - b) Restore
 - c) Reuse
 - d) Invention
- 13) _____ of time up to which the capacity of a sewer will be adequate is referred to as the design period.
- a) Diameter
 - b) Area
 - c) Length
 - d) All of above
- 14) sewage flows may be as little as _____ of water consumption and in well developed areas.
- a) 60 %
 - b) 80 %
 - c) 55 %
 - d) 40 %
- 15) Design _____ can be calculated based on the design population.
- a) Flows
 - b) Velocity
 - c) Size
 - d) Area

- 16) flow in sanitary sewers may include certain flows due to _____ of groundwater through joints.
- a) On filtration
 - b) Break filtration
 - c) Infiltration
 - d) None of above
- 17) infiltration value shall be limited to a maximum of 10% of the design value of flow.
- a) Sewage
 - b) Sewer
 - c) Drain
 - d) None of above
- 18) High levels of infiltration can lower _____ levels and can cause significant hydrologic impacts to nearby streams.
- a) Surface water
 - b) Ground water
 - c) Industry water
 - d) Sewer water
- 19) Infiltration analysis flow _____ collected during the high groundwater periods is used.
- a) Data
 - b) Value
 - c) Price
 - d) Equation
- 20) Portion of total inflow volume which is from direct connections to the system such as catch basins, roof leaders, manhole covers, etc.
- a) conveyance
 - b) collection
 - c) disposal
 - d) none of above
- 21) Total _____ is the area between the storm event hydrograph and the dry weather hydrograph.
- a) Inflow
 - b) Outflow
 - c) Break flow
 - d) None of above
- 22) The ratio of peak hourly flow to _____ daily flow.
- a) Remaining
 - b) Average
 - c) Maximum
 - d) None of above

- 23) Analyse the wastewater flow data at the treatment facility during a dry weather period of _____ days.
- a) 7 to 14
 - b) 6 to 10
 - c) 2 to 8
 - d) 12 to 20
- 24) Ground water infiltration (GWI) can be estimated from _____ flow data collected during a dry weather period at high groundwater.
- a) Influent
 - b) Out fluent
 - c) Reverse
 - d) None of above
- 25) The maximum daily infiltration will be _____ and maximum monthly infiltration will be _____ .
- a) Higher
 - b) Lower
 - c) Medium
 - d) a and b both
- 26) Tributary area of a sewer includes all areas which will _____ flow to the system.
- a) Contribute
 - b) Separate
 - c) Destroyed
 - d) None of above
- 27) Estimate for the tributary area is the basis for computing the design flow.
- a) Value
 - b) Population
 - c) Rate
 - d) Supply
- 28) Small portion of spent water is lost in _____.
- a) Evaporation
 - b) Precipitation
 - c) Over use
 - d) In use
- 29) Design of sanitary _____ must consider minimum, average, and peak flows.
- a) Drain
 - b) Sewer
 - c) Infiltration
 - d) None of above
- 30) Flows are used to determine if specified velocities can be maintained to prevent deposition of solids.

- a) Minimum
- b) Maximum
- c) Between
- d) None of above

31) Flow of wastewater in sewers may be _____ channel or pressure flow.

- a) Close
- b) Open
- c) Rectangular
- d) Circular

32) _____ flow occurs when the depth of flow is constant with respect to time.

- a) Rectangular
- b) Circle
- c) Steady
- d) Non steady

33) _____ flow occurs when the depth of flow does not change with respect to location.

- a) Uniform
- b) Steady
- c) Non steady
- d) Linear

34) Manning's roughness coefficient of "n" = _____ shall be used for sizing gravity sewers.

- a) 0.018
- b) 0.014
- c) 0.280
- d) 0.789

35) The effluent of septic tank is

- a) Fit for discharge into any open drain
- b) Foul and contains dissolved and suspended solid
- c) As good as for complete treatment
- d) None of above

36) The bottom of sewage inlet chamber of septic tanks is provided an outward slope _____.

- a) 1 in 5
- b) 1 in 10
- c) 1 in 15
- d) 1 in 20

37) The rainfall at any place may be determined by _____.

- a) Its intensity
- b) Its direction
- c) Its frequency

- d) All of above
- 38) 15 cumecs, the depth d and width are related by for drains up to
- a) $d = 0.2 B$
 - b) $d = 0.5 B$
 - c) $B = 0.2 d$
 - d) $B = 0.5 d$
- 39) Clogging of sewers, is caused due to
- a) Silting
 - b) Low discharge
 - c) Greasy and oily matter
 - d) All of above
- 40) Which of the following causes a decrease in per capita consumption?
- a) use of metering system
 - b) good quality of water
 - c) better standard of living of the people
 - d) hotter climate
- 41) The hourly variation factor is usually taken as
- a) 1.5
 - b) 1.8
 - c) 2.0
 - d) 2.7
- 42) A sewer that receives the discharge of a number of house sewers is called
- a) house sewer
 - b) lateral sewer
 - c) intercepting sewer
 - d) submain sewer
- 43) Sewerage system is usually designed for
- a) 10 years
 - b) 25 years
 - c) 50 years
 - d) 75 years
- 44) Which of the following sewers is preferred for combined system of sewage?
- a) circular sewer
 - b) egg shaped sewer
 - c) rectangular sewer
 - d) none of the above
- 45) If the time of concentration is 9 minutes, then the intensity of rainfall according to British Ministry of Health formula will be
- a) 4 mm/hr
 - b) 10 mm/hr

- c) 20 mm/hr
 - d) 40 mm/hr
- 46) The specific gravity of sewage is
- a) much greater than 1
 - b) slightly less than 1
 - c) equal to 1
 - d) slightly greater than 1
- 47) The self-cleaning velocity for all sewers in India is usually
- a) less than 1.0 m/sec
 - b) 1.0 m/sec to 1.2 m/sec
 - c) 1.5 m/sec to 2.0 m/sec
 - d) 3.0 m/sec to 3.5 m/sec
- 48) The slope of sewer shall be
- a) given in the direction of natural slope of ground
 - b) given in the direction opposite to natural slope of ground
 - c) zero
 - d) steeper than 1 in 20
- 49) The design discharge for the separate sewer system shall be taken as
- a) equal to dry weather flow (DWF)
 - b) 2xDWF
 - c) 3 x DWF
 - d) 6xDWF
- 50) The design discharge for the combined sewer system shall be taken as
- a) equal to rainfall
 - b) rainfall + DWF
 - c) rainfall + 2 DWF
 - d) rainfall + 6 DWF

Unit 4

- 1) Many of the components are pertinent to the design of
- a) an appurtenance whether it be for a sanitary, combined or storm sewer
 - b) when there is a change in the pipeline diameter
 - c) appurtenances include manholes, flush tanks, service connections
 - d) none of above
- 2) _____ are among the most common appurtenances found in sewerage systems.
- a) Manholes
 - b) Drain
 - c) Sewer
 - d) Combined

- 3) Manhole purpose is to permit inspection and cleaning as well as
- a) stormwater stands by tanks
 - b) at all pipe intersections
 - c) repair of sewers and removal of any obstructions
 - d) all of above
- 4) Manholes are _____ in shape.
- a) Circular
 - b) Rectangular
 - c) Triangle
 - d) None of above
- 5) Width of the _____ does not exceed the width of the manhole.
- a) Drain
 - b) Sewer
 - c) Circular
 - d) None of above
- 6) _____ is usually constructed directly over the centre line of the sewer.
- a) Manhole
 - b) Drain
 - c) Sewer
 - d) Garbage
- 7) sanitary flow should be come in smoothly constructed _____ channels.
- a) V – shaped
 - b) U – shaped
 - c) T – shaped
 - d) None of above
- 8) _____ pipes have been accomplished by placing fittings and Characteristics through the bottom of the manhole. a) Big
- b) Medium
 - c) Small
 - d) Circular
- 9) Brick walls are normally constructed _____ inch thick.
- a) 8
 - b) 9
 - c) 10
 - d) 12
- 10) Manhole frames and covers are almost invariably of _____grained gray cast iron with a combined weight for the frame.
- a) Open
 - b) Close

- c) Circular
 - d) None of above
- 11) _____ is an opening, constructed in a sewer, slightly larger than necessary to permit the insertion of a light into the sewer.
- a) Lamp hole
 - b) Circular
 - c) Manhole
 - d) Narrow
- 12) _____ should be constructed of _____ inch tiles or cast-iron pipes.
- a) Lamp hole, 8 to 12
 - b) Circular, 6 to 8
 - c) Manhole, 4 to 10
 - d) Narrow, 2 to 12
- 13) _____ street inlet is an _____ in the street surface.
- a) Closing
 - b) Opening
 - c) In between
 - d) None of above
- 14) _____ are usually placed near street corner.
- a) Curb
 - b) Holes
 - c) Inlets
 - d) None of above
- 15) _____ are used to interrupt the flow of sewage before it enters the sewer.
- a) Catch basins
 - b) Street
 - c) Curb
 - d) Inlet
- 16) _____ water stand by tank is to serve as a storage basin.
- a) Drain
 - b) Storm
 - c) Sewer
 - d) Manhole
- 17) Separate catch basin may be used for each _____ or to save expense.
- a) Outlet
 - b) Storage
 - c) Inlet
 - d) All of above
- 18) Catch basins are constructed like manholes with diameter varying from _____ ft.
- a) 2.5 to 4

- b) 7 to 8
 - c) 3.5 to 10
 - d) 2 to 4
- 19) Outlet from the catch basin may be submerged to prevent.....
- a) placing of an inlet at the intersection of the two kerb lines
 - b) the odours escaping from the sewer into the street
 - c) undesirable on separate or on combined sewers because of the inevitable
 - d) none of above
- 20) Presence of oil and gasoline has resulted in_____ in the pipes.
- a) Explosion
 - b) Changes
 - c) Valuable
 - d) None of above
- 21) _____ system is not properly maintained silt, ashes, grit, etc.
- a) Sullage
 - b) Sewerage
 - c) Combustion
 - d) None of above
- 22) _____ is opening or hole constructed in sewer for purpose of lowering lamp inside.
- a) Hollow hole
 - b) Deep hole
 - c) Lamp hole
 - d) Constructed hole
- 23) Lamp hole consist of vertical stoneware or concrete pipe which are connected to sewer line through _____ .
- a) V junction
 - b) T junction
 - c) B junction
 - d) None of above
- 24) Narrow lanes change of gradient and slight curves where space is insufficient for the _____ of manhole.
- a) Construction
 - b) Treatment plant
 - c) Sewage
 - d) None of above
- 25) _____ is opening constructed on alignment of sewer for facilitating a person access to sewer for purpose of inspection.
- a) Sewer
 - b) Manhole
 - c) Linear

- d) Trench
- 26) _____ receives contribution of sewage from sewers of various size.
- a) Drain
 - b) Sewage
 - c) Manhole
 - d) Collection
- 27) _____ manhole constructed as alternative to rectangular as well as arch type manhole.
- a) Circular
 - b) Rectangular
 - c) Triangle
 - d) None of above
- 28) _____ are constructed in tunnel the manhole should located at access of working shaft.
- a) Combined
 - b) Rectangular
 - c) Sewer
 - d) None of above
- 29) Shaft shall in shape and shall have minimum internal diameter_____mm.
- a) 670
 - b) 750
 - c) 560
 - d) 480
- 30) Thickness of base also shall suitably increase up to _____mm for manhole on large diameter.
- a) 300
 - b) 700
 - c) 650
 - d) 450
- 31) Simplest type of _____is built on straight run of sewer with no side junctions.
- a) Manhole
 - b) Sewer
 - c) Combined
 - d) Separate
- 32) _____ may be built of shape other than rectangular.
- a) Sewerage
 - b) Chamber
 - c) Combined
 - d) Separate
- 33) Gully trap is provided inside _____chamber.

- a) Circular
- b) PVC
- c) Plastic
- d) Masonry

34) Water seal about _____mm is provided in gully trap.

- a) 60 – 70
- b) 40 – 50
- c) 20 – 40
- d) 10 -20

35) Trap has water seal about _____.

- a) 300 mm
- b) 200 mm
- c) 100 mm
- d) 56 mm

36) _____ trap is preventing entry of sewer gases from public sewer line to house drainage.

- a) Sewer
- b) Drain
- c) Public
- d) Area

37) Manhole work are _____gas and oxygen deficiency.

- a) Non hazardous
- b) Flammable
- c) Non toxic
- d) Hazardous

38) Test for _____ gases before entering into manhole.

- a) Hazardous
- b) Flammable
- c) Overuse
- d) None of above

39) Water lines of main line and invert level of branch line is more than _____ mm.

- a) 400
- b) 500
- c) 600
- d) 450

40) _____ pipe is inside the shaft it should be in cast iron.

- a) Drop pipe
- b) Vent pipe
- c) Soil pipe
- d) None of above

- 41) Grease and oil are _____ in weight float on surface of sewer.
- a) Heavy
 - b) Light
 - c) Medium
 - d) None of above
- 42) Oil and grease traps are located near source contributing grease and oil to _____.
- a) Sewage
 - b) Drain
 - c) Conservancy
 - d) Partial
- 43) Oil and grease traps should be inspected and properly cleaned at intervals.
- a) Irregular
 - b) Medium
 - c) Regular
 - d) None of above
- 44) Outlet pipe of catch basin is fixed about _____cm above bottom of catch basin.
- a) 60
 - b) 50
 - c) 40
 - d) 30
- 45) Catch basin collect solids from _____water.
- a) Treated
 - b) Storm
 - c) Drain
 - d) Sewerage
- 46) Catch basins provided temporary storage of _____contained in rain water.
- a) Impurities
 - b) Purity
 - c) Toxic
 - d) Non hazardous
- 47) Catch basins requires _____cleaning.
- a) Daily
 - b) Never
 - c) Periodical
 - d) None of above
- 48) Catch basins are adopted for _____sewerage system.

- a) Combined
 - b) Partial
 - c) Different
 - d) None of above
- 49) _____ shaft is connected to manhole by 15 cm in diameter pipe.
- a) Circular
 - b) Ventilating
 - c) Triangle
 - d) None of above
- 50) In open area manhole covers may provide with _____ pipe.
- a) Circular
 - b) Rectangular
 - c) Soil
 - d) Vent

Unit :5

- 1) _____ of sewers is started after completing the design work and preparation of all necessary plans.
 - a) Construction
 - b) Preparation
 - c) Hazardous
 - d) Valuable
- 2) Excavation of _____ is done manually in India where as in some countries it is done by means of machinery.
 - a) Curve
 - b) Trenches
 - c) Curb
 - d) Inlet
- 3) Width of trench depends on the _____ of the sewer.
 - a) Criteria
 - b) Velocity
 - c) Diameter
 - d) Drainage
- 4) Trench width should be _____ more than the external diameter of the sewer.
 - a) 15 cm
 - b) 30 cm
 - c) 40 cm
 - d) 20 cm
- 5) Minimum trench width of 60 to 100 cm is necessary for conveniently _____.

- a) Jointing
 - b) Laying
 - c) Propagation
 - d) None of above
- 6) Trench width is kept about _____ larger than the sewer diameter.
- a) 30 cm
 - b) 20 cm
 - c) 15 cm
 - d) 10 cm
- 7) Soil material is firm the remaining trench should be excavated in _____ shape.
- a) Semi circular
 - b) Circular
 - c) Triangle
 - d) None of above
- 8) Excavation in hard _____ is done by means of pickaxes, crowbars and by drilling holes side by side and splinting the rocks by driving plugs and feathers.
- a) Bars
 - b) Plant
 - c) Rocks
 - d) Curves
- 9) sides of the excavated trench will not _____ and will remain in cut position.
- a) Collapse
 - b) Dry
 - c) Heavy
 - d) Normal
- 10) _____ are undermined during the excavation work for laying the sewers.
- a) Foundations
 - b) Work
 - c) Value
 - d) Quality
- 11) Temporary _____ should be provided all-round the trenches.
- a) Construction
 - b) Railing
 - c) Force
 - d) Value

- 12) Checking the levels of the sewers pipes and their alignment temporary bench marks are established at _____metres intervals.
- a) 100 – 200
 - b) 200 – 300
 - c) 200 – 400
 - d) None of above
- 13) _____ of trench depends on the diameter of the sewer and the depth of sewer-line below the ground level.
- a) Width
 - b) Length
 - c) Area
 - d) Breath
- 14) Trench width should be _____more than the external diameter of the sewer.
- a) 30 cm
 - b) 20 cm
 - c) 15 cm
 - d) 50 cm
- 15) Minimum trench width of _____is necessary for conveniently laying and jointing of even very small size sewers.
- a) 60 to 100 cm
 - b) 40 to 80 cm
 - c) 20 to 30 cm
 - d) None of above
- 16) Trench has been excavated within _____of the diameter of the sewer pipe from the bottom.
- a) One
 - b) One half
 - c) Two
 - d) Three
- 17) Locate the positions of the manhole on the _____along the longitudinal section of the sewer line.
- a) Ground
 - b) Surface
 - c) Levelling
 - d) Area
- 18) centre line pegs of the sewer are driven at a distance of every _____ .
- a) 10 m
 - b) 8 m
 - c) 7.5 m
 - d) 12 m

- 19) Trench is excavated between _____ manholes.
- Five
 - Three
 - Four
 - Two
- 20) _____ may be carried out either by manual labour or by machines like power shovels, track excavators etc.
- Excavation
 - Burial
 - Incineration
 - Drying
- 21) width of the trench at the bottom is generally kept _____ more than the diameter of sewer pipe.
- 20 cm
 - 15 cm
 - 10 cm
 - 12 cm
- 22) Bed of the sewer is prepared by _____ concrete.
- Post
 - Plan
 - Plain
 - Extend
- 23) Bedding layer is not required in case of rocky or _____ soil.
- Hard
 - Large
 - Small
 - None of above
- 24) Pipe line is straight the _____ of light will be observed.
- Half circle
 - Full circle
 - Rainfall
 - Triangle
- 25) Diameter of the ball is _____ less than the internal diameter of the sewer.
- 13 mm
 - 15 mm
 - 20 mm
 - 10 mm
- 26) What are the types of sewers?
- Cement Sewer, brick sewer

- b) Non conditional sewer, hexagon sewer
 - c) Abiotic sewer, non-abiotic sewer
 - d) None of above
- 27) _____ sewer systems have two separate pipes, with one pipe conveying stormwater from and one pipe conveying sanitary sewer.
- a) Combined
 - b) Round
 - c) Separate
 - d) Triangle
- 28) _____ sewers have one pipe that conveys a mix of sanitary and stormwater.
- a) Combined
 - b) Round
 - c) Separate
 - d) Triangle
- 29) _____ mains flow into progressively larger pipes until they reach the wastewater treatment plant.
- a) Household
 - b) Drain
 - c) Sewer
 - d) None of above
- 30) Inner surface of sewer is smooth hence the flow of sewage is _____ .
- a) Uniform
 - b) Rectangular
 - c) Circular
 - d) None of above
- 31) Sanitary sewer or foul sewer is an _____ pipe or tunnel system for transporting sewage from houses.
- a) Land
 - b) Underground
 - c) Borewell
 - d) None of above
- 32) _____ for the trenches will be calculated from the surface to the bed of the pipes.
- a) Size
 - b) Length
 - c) Depth
 - d) Area
- 33) _____ are to be laid with sockets facing up the gradients beginning at the lower end.
- a) Sewer
 - b) Pipes
 - c) Drain

- d) Conservancy system
- 34) Bedding for stoneware pipes shall be of _____ concrete.
- a) M – 400
 - b) M – 600
 - c) M – 200
 - d) M – 100
- 35) only pipes shall be laid on bricks or stone chips to the required ____ and joint.
- a) Level
 - b) Area
 - c) Value
 - d) Device
- 36) joints are tested the work of _____ will be done.
- a) Sand
 - b) Concreting
 - c) PVC
 - d) Plastic
- 37) All the pipe joints shall be _____ with tarred gasket in one length for each joint.
- a) Caulked
 - b) Disposal
 - c) Device
 - d) Drain
- 38) _____ are thoroughly cleaned and moistened.
- a) Drain
 - b) Sewer
 - c) Wall
 - d) Pipe
- 39) _____ are made that the pipes be not moved or shaken before the cement has thoroughly set.
- a) Joints
 - b) Laying
 - c) Combine
 - d) None of above
- 40) _____ pipes of the spigot and socket type with roll on rubber rings shall be used.
- a) PVC
 - b) Plastic
 - c) Concrete
 - d) None of above
- 41) Apparatus used for the purpose of _____ shall be approved by the Engineer.
- a) Testing

- b) Working
 - c) Design
 - d) Construction
- 42) _____ shall run through the pipes both backwards and forwards a double disc or solid.
- a) Supervisor
 - b) Contractor
 - c) Advisor
 - d) None of above
- 43) No allowances will be made for any waste in cutting to the exact _____ required for pipe.
- a) Length
 - b) Width
 - c) Breath
 - d) Size
- 44) _____ system consists of the optimum use of labour, equipment, and materials to keep the system in good condition.
- a) Drain
 - b) Sewerage
 - c) Flush
 - d) Curb
- 45) Routine _____ should be carried out to prevent any breakdown of the system.
- a) Maintenance
 - b) Value
 - c) Construction
 - d) Repair
- 46) Proper _____ and preventive maintenance are necessary.
- a) Working
 - b) Inspection
 - c) Probability
 - d) Construction
- 47) _____ maintenance is found even in large cities.
- a) Drain
 - b) Plumbing
 - c) Sewer
 - d) None of above
- 48) Sewer collection systems are intended to be a reliable method of conveying sewage from _____ discharge to sewage treatment plants.
- a) Individual
 - b) Combine
 - c) Area wise

- d) None of above
- 49) _____ failure due to faulty foundation or movement of earth is a clean vertical break in the pipe or barrel.
 - a) Stress
 - b) Shear
 - c) Artificial
 - d) None of above
- 50) Regular _____ of the sewer can pinpoint the sewer that needs to be attended to before there is a complete failure or collapse.
 - a) Information
 - b) Inspection
 - c) Value
 - d) Area

Unit 6

- 1) Pumping stations for the first two functions are generally of _____ m lifting capacity.
 - a) 2 – 20 m
 - b) 21 – 30 m
 - c) 30 – 40 m
 - d) 41 – 50 m
- 2) centre line of the bell mouth entry should be fairly close to the opposite wall of the _____ chamber.
 - a) Outlet
 - b) Inlet
 - c) Opposite
 - d) Reverse
- 3) electric motor is directly joined to the vertical shaft of the pump and is located in a water-free, _____ place.
 - a) Dry
 - b) Winter
 - c) Summer
 - d) None of above
- 4) _____ has a minimum suction head value at which it can still work.
 - a) Pipe
 - b) Pump
 - c) Area
 - d) None of above
- 5) _____ are manually operated.
 - a) Valves
 - b) Suction
 - c) Pipe
 - d) Area

- 6) _____ house should be made of flange joint cast iron or welded steel.
- a) Valve
 - b) Pump
 - c) Drain
 - d) Sewer
- 7) Pumping is restored to when _____ sewer is at lower level than body of water.
- a) Inflow
 - b) Outflow
 - c) Outfall
 - d) None of above
- 8) _____ of sewage is not as simple as pumping of water.
- a) Pumping
 - b) Ventilator
 - c) Outside
 - d) Inside
- 9) Sewage contains organic and inorganic wastes which may cause...
- a) Floating
 - b) Corrosion
 - c) Remove
 - d) Settle
- 10) Proper _____ of pumping station requires comprehensive study of area to be served.
- a) Location
 - b) Preserve
 - c) Drainage
 - d) Storage
- 11) Large _____ of sewage is pumped site should be nearer a stream.
- a) Quality
 - b) Supply
 - c) Quantity
 - d) None of above
- 12) _____ Substructure of pumping station may be mass concrete.
- a) R.C.C
 - b) Slab
 - c) PVC
 - d) Plastic
- 13) Building should possess enough _____ so that foul gas, moisture are easily carried out of building.
- a) Construction

- b) Ventilation
 - c) Propagation
 - d) None of above
- 14) _____ are most widely used for pumping sewage and storm water as they can easily installed.
- a) Centrifugal pump
 - b) Rotary pump
 - c) Valve pump
 - d) Drainage pump
- 15) Pumps are generally _____ type.
- a) Horizontal
 - b) Vertical
 - c) Circular
 - d) None of above
- 16) some water leaks from the higher levels of the _____ to those lower down.
- a) Canal
 - b) River
 - c) Drain
 - d) Pipe
- 17) Which following pumps vacuum is created mechanically by the moveable part of the pumps?
- a) Centrifugal pump
 - b) Displacement pump
 - c) Rotary pump
 - d) None of above
- 18) _____ of the water is prevented by means of suitable valves.
- a) In flow
 - b) Out flow
 - c) Back flow
 - d) Again flow
- 19) _____ pumps instead of gun metal cylinder, G.I. cylinder is used.
- a) Ordinary
 - b) Displace
 - c) Rotary
 - d) None of above
- 20) piston is raised up, vacuum gets created in cylinder below the piston, thereby opening the _____ valve.
- a) Repair
 - b) Store
 - c) Check
 - d) Resize

- 21) pump can give _____ supply of water which is sucked from the ground through strainer.
- a) Continuous
 - b) Different
 - c) Partial
 - d) None of above
- 22) pumps are used to lift the water when the depth of water table is more than _____ .
- a) 4 m
 - b) 5 m
 - c) 6 m
 - d) 2 m
- 23) _____ is kept below the water table, these pumps have only to lift the water.
- a) Cylinder
 - b) Drain
 - c) Sewer
 - d) None of above
- 24) _____ check valves are provided in between the suction pipe to the suction capacity of the pumps.
- a) Decrease
 - b) Increase
 - c) Partial
 - d) Steady
- 25) piston moves inside a _____ with the help of piston rod operated by a wheel through connecting rod.
- a) Cylinder
 - b) Level
 - c) Area
 - d) None of above
- 26) flow of water is not constant but it is intermittent and gives vibration, shock and loss of _____.
- a) cycle
 - b) area
 - c) size
 - d) energy
- 27) Blades revolve in a downward direction at the centre and the water is carried
- a) upward around the side of the casing.
 - b) Downward around side
 - c) Between of area
 - d) None of above

- 28) water is pushed through the discharge pipe and partial _____ is created on the suction side. a) Level
b) Area
c) Vacuum
d) All of above
- 29) efficiency of rotary pumps is high at low to moderate heads up to discharge of _____ litres/min.
a) 2000
b) 1000
c) 500
d) 2200
- 30) _____ are easy in construction and maintenance as compared with reciprocating pumps.
a) Rotary pump
b) Displacement pump
c) Centrifugal pump
d) None of above
- 31) water which has entered inside the pumps is revolved at high speed by means of impeller and is thrown to the periphery by the _____ force.
a) Continuous
b) Centrifugal
c) Rotary
d) None of above
- 32) _____ is usually rotated by an electric motor.
a) Impeller
b) Rotary
c) Displace
d) Advance
- 33) _____ pumps using one impeller are known as single stage pumps.
a) Rotary
b) Centrifugal
c) Distribution
d) Horizontal
- 34) Pumps using two or more impellers are called double or pumps.
a) Various
b) Multistage
c) Impeller
d) All of above
- 35) impellers are installed on one vertical shaft which is suspended and rotated inside the tube- well by

- a) prime mover motors installed at the ground surface.
 - b) leaving the impeller has the same cross-sectional area
 - c) reduce the velocity of water
 - d) suspended particles remove
- 36) _____ is the process of removing the trapped air from the pump and filling it completely with water.
- a) Dewatering
 - b) Sanitizing
 - c) Priming
 - d) Preserving
- 37) Air has been _____ completely water will start coming through the air-vent.
- a) Remove
 - b) Complete
 - c) Reverse
 - d) Partial
- 38) water contains suspended matter and acids or alkalies which may other types of pumps.
- a) Continue
 - b) Damage
 - c) Variation
 - d) None of above
- 39) pumps are suitable for _____ water from small wells or deep wells.
- a) Lifting
 - b) Writing
 - c) Destroy
 - d) Combine
- 40) Air inlet pipe is lowered in the _____ with the direction of its outlet upward.
- a) Valve
 - b) Pipe
 - c) Educator
 - d) Suction
- 41) Pumps which pump directly into transmission lines and distribution systems are sometimes called _____ pumps.
- a) High lift
 - b) Low lift
 - c) Area
 - d) None of above
- 42) Function of a pump station in the overall _____ system operation can also affect the determination of capacities.
- a) Affect

- b) Distribution
 - c) Quality
 - d) None of above
- 43) pump station is located at an above _____ storage facility.
- a) Ground
 - b) Surface
 - c) River
 - d) None of above
- 44) _____ for horizontal pumps will be oil bath or grease.
- a) Surface
 - b) Lubrication
 - c) Violation
 - d) None of above
- 45) Pump drives for water supply and distribution pumps will be _____ Motors.
- a) Direct
 - b) Indirect
 - c) Electric
 - d) None of above
- 46) _____ valve will protect the pump from excessive back pressure.
- a) Gate
 - b) Check
 - c) Rotary
 - d) Distributor
- 47) Air release and vacuum relief valves will be used on discharge piping for _____ turbine pumps.
- a) Horizontal
 - b) Circle
 - c) Rectangular
 - d) Vertical
- 48) _____ accumulator system can operate on clean water, oil and other fluids.
- a) Circular
 - b) Hydraulic
 - c) Non hydraulic
 - d) Pressure
- 49) suction piping is important to minimize _____ losses and allow sufficient flow into the pump.
- a) Pressure
 - b) Valve
 - c) Distribution
 - d) None of above

50) _____ piping should be as short as possible but never smaller than pump suction opening.

- a) Area
- b) Size
- c) Valve
- d) Suction

Unit 1:

44	a
45	C
46	a
47	d
48	a
49	b
50	a

Unit 2:

1	a
2	b
3	a
4	a
5	b
6	a
7	b
8	b
9	a
10	c
11	a
12	a
13	a
14	b
15	b
16	a
17	b
18	a
19	c
20	a
21	a
22	b
23	c
24	a
25	c
26	a
27	b
28	c
29	a
30	b
31	c
32	a
33	b
34	a
35	a
36	b
37	a
38	b
39	a
40	b
41	c
42	a
43	b

Unit 3:

1	a
2	a
3	b
4	c
5	a
6	d
7	a
8	c
9	a
10	b
11	c
12	a
13	d
14	a
15	b
16	a
17	a
18	c
19	a
20	b
21	a
22	c
23	a
24	c
25	a
26	b
27	c
28	a
29	b
30	a
31	b
32	a
33	b
34	a
35	B

36	c
37	a
38	b
39	a
40	b
41	a
42	a
43	b
44	c
45	a
46	a
47	c
48	a
49	b
50	a

1	a
2	b
3	c
4	a
5	b
6	a
7	c
8	b
9	b
10	a
11	b
12	a
13	c
14	d
15	a
16	c
17	a
18	b
19	a
20	b
21	a
22	b
23	a
24	a
25	d
26	a
27	b

Unit 5:

28	a
29	b
30	a
31	b
32	c
33	a
34	b
35	a
36	b
37	d
38	b
39	d
40	a
41	a
42	b
43	b
44	b
45	d
46	d
47	b
48	a
49	d
50	c

Unit 4:

1	a
2	a
3	c
4	a
5	b
6	a
7	b
8	c
9	a
10	b
11	a
12	a
13	b
14	c
15	a
16	b
17	c
18	a
19	b
20	a

21	b
22	c
23	b
24	a
25	b
26	c
27	a
28	c
29	b
30	a
31	a
32	b
33	d
34	a
35	c
36	a
37	b
38	a
39	c
40	a
41	b
42	a
43	c
44	a
45	b
46	a
47	c
48	a
49	b
50	d

1	a
2	b
3	c
4	a
5	b
6	c
7	a
8	c
9	a
10	a
11	b
12	c
13	a
7	c
8	a
9	b
10	a
11	C
12	a
13	b
14	a
15	b
16	a
17	b
18	c
19	a
20	c
21	a
22	c
23	a
24	b
25	a
26	d
27	a

Unit 6:

1	a
2	b
3	a
4	b
5	a
6	b

28	c
29	a
30	a
31	b
32	a
33	b
34	b
35	a
36	c
37	a
38	b
39	a
40	c
41	a
42	b
43	a
44	b
45	c
46	b
47	d
48	b
49	a
50	d

14	c
15	a
16	b
17	a
18	c
19	d
20	a
21	b
22	c
23	a
24	b
25	a
26	a
27	c
28	a
29	c
30	a
31	b
32	c
33	b
34	c
35	a
36	b
37	a
38	d
39	a
40	c
41	a
42	b
43	a
44	b
45	a
46	b
47	c
48	a
49	b
50	b