| Sr. # | Statement | ANSWER |
|-------|---|--------|
| | Which is not true about engineering drawing. | |
| 1. | A. It's a technical type of drawing B. It describes geometric features of all parts of a machine. C. It's an illustration of all parts of machine. D. It's combination of graphic and world languages E. All are true about engineering drawing | С |
| | We use scaling in Engineering drawings because | |
| 2. | A. It is easy to draw using scale B. Engineering objects are too large C. Modification is easy if we use scaling D. All of these | В |
| 3. | The drawing drawn without using instruments other than pencils and erasers is called A. Manual Drawing B. Freehand drawing C. Instrumental drawing D. Both A & B | В |
| 4. | For making angles instrument is used. A. Compass B. Divider C. Protector D. Both A & C | D |
| 5. | Most important part of drawing a layout of engineering object is A. Drawing sheet B. Pencil C. Dimensions D. None of these | С |
| 6. | A. Parallel line B. Hidden line C. Both A & B D. None of these | В |
| 7. | Instruments is used to draw parallel lines. A. Scale B. Compass and divider C. T-Square D. Both A&C | С |
| 8. | Quadrant of a circle is always sector of circle. Greater than Less than Equal to Same as | A |

| 9. | The most appropriate method of dividing a line into equal parts is by using A. Using scale B. Compass C. Line divider D. All of these | В |
|-----|---|---|
| 10. | The most appropriate method for drawing Ellipse is A. Concentric method B. 4-Center method C. Rectangular Method D. Oblong method | В |
| 11. | If eccentricity value is approaching 0 it represents theshape? A. Parabola B. Ellipse C. Hyperbola D. Circle | D |
| 12. | Mark the true statement? A. There is only one focus point and two directrices for parabola. B. There are two focus point and many directrices for hyperbola. C. There are two focus point and two directrix for ellipse. D. There are two focus point and two directrix for hyperbola. | D |
| 13. | What instrument can be used as a guide in drawing to draw horizontal and vertical lines? A. Scale B. Set-square C. T-square D. All are correct | С |
| 14. | Mark the true statement from the following A. Compass is used to measure distances, navigation and drawing circles B. Compass is used to measure length, height, and drawing strait line C. Compass is used to measure depth, diameter, and drawing straight line D. Compass is used to measure distance, height, and drawing strait line | A |
| 15. | Which pencil can be used for light and dark lines respectively? A. 2H, 5H B. 6H, 6B C. 4H, H D. 5H, 5B | С |
| 16. | Which of the following has length without width? A. Point B. Line C. Plane D. Angle | В |
| 17. | The triangle whose sides and angles are not equal is known as A. Equilateral triangle B. Isosceles triangle | D |

| | C. Right triangle | |
|-----|--|---|
| | D. None of these | |
| 18. | Interior features that do not lie along a straight line can be represented by A. Offset B. Development C. Orthographic projection D. Simple drawing | A |
| 19. | If length of an object is greater than width, the drawing sheet will be pasted in style A. Portrait B. Landscape C. Vertically D. None of these | В |
| 20. | Soldering is a type of fastener. A. Temporary B. Basic C. Secondary D. Permanent | D |
| 21. | is the linear distance between two consecutive points in a screw's thread. A. Crest B. Pitch C. Pitch diameter D. None of these | В |
| 22. | thread is used to transmit high power in only one direction A. ACME B. Knuckle C. Buttress D. All of these | С |
| 23. | Views are enough to fully describe the following object in orthographic projection. A. 1 B. 2 C. 3 D. 6 | В |
| 24. | Which type of sectional view describes joining of different parts of object? A. Shaft sections B. Joining sections C. Aligned sections D. None of these | D |

| | | 1 |
|-----|--|---|
| | In development of bending lines are not required. | |
| | A. Cone | |
| 25. | B. Prism | D |
| | C. Pyramid | |
| | D. Both Cone and pipe | |
| | What type of development is used in development of truncated right cylinder? | |
| | A. Parallel line development | |
| | B. Radial line development | |
| 26. | C. Approximation Development | D |
| | D. Both Parallel and radial line development | |
| | | |
| | Keys are type of fasteners? | |
| | A. Temporary | |
| 27. | B. Permanent | A |
| 27. | C. Semi-Permanent | A |
| | D. None of these | |
| | | |
| | threads are mostly used in machines. A. Screw | |
| | A. Screw B. Square | |
| 28. | C. Buttress | A |
| | D. None of these | |
| | D. None of these | |
| | Choose the correct statement. | |
| | A. Plane of projection is a cutting plane that appears to be present at larger | |
| | distance from object. | |
| 29. | B. Engineers use perspective projection for manufacturing. | C |
| 29. | C. Image of object formed in parallel projection is accurate in size as | |
| | compared to perspective projection. | |
| | D. Orthographic projection is perpendicular line projection. | |
| | In isometric prejection allipse can be drawn as: | |
| | In isometric projection ellipse can be drawn as: A. Circle | |
| | B. Rectangular ellipse | |
| 30. | C. Four Centre ellipse | C |
| | D. None of these | |
| | | |
| | Mark the correct statement? | |
| | A. Perspective projection is also known as Multiview drawing. | |
| 31. | B. Isometric view gives accurate visualization of shape of the object. | C |
| | C. Mostly 1 st angle system is used in orthographic drawings. | |
| | D. Isometric drawing needs more practice in writing and reading. | |
| | Which type temporary of fasteners are used to in case of tensions and | |
| | compressions? | |
| | A. Keys | |
| 32. | B. Cotters | В |
| | C. Rivets | |
| | D. All of these | |
| | | |
| | There are types of sectional views. | |
| | A. 2 | |
| 33. | B. 3 | В |
| | C. 6 D. None of these | |
| | D. Nolle of these | |
| | | |

| 34. | To draw a line of 13 units at 105 ⁰ the command prompt sequence will be written as; A. >13@105 B. <13@105 C. @13>105 D. None of these | D |
|-----|--|------------------------------------|
| 35. | Command is used to create the similar copy at opposite side. A. Mirror B. Copy C. Array D. Both A & C | A |
| 36. | What will happen if you use solid extrude command on an open 2D geometry: A. It will extrude a surface B. It will not create extrusion C. Command line will prompt you to make closed boundary before using extrude command D. Region will be created from extrusion | A |
| 37. | To turn ON/OFF Command Bar in AutoCAD shortcut key is used. A. F9 B. ALT+F9 C. CTRL+F9 D. None of these | D CORRECT ANSWER (CTRL+9) |
| 38. | Command is used to make multiple same objects at once. A. Copy B. Offset C. Array D. All of these | С |
| 39. | In AutoCAD 2007 one can draw a polygon withno. of sides. A. as many as one wants B. Maximum 10 C. Minimum 10 D. None of these | D (MIN 3 - MAX 1024) |
| 40. | Which layer is automatically created when a dimension is added to the drawing? A. Layer 0 B. Layer q C. Dim D. None of these | D |
| 41. | Which of the following is the extension for AutoCAD drawing file? A. DWG B. ACTD C. ACD D. All of these | A |
| 42. | CAD is also called as CAE. CAD = & CAE | С |

| | unit formate and be calcuted from the | |
|-----|---|---|
| 43. | units dialogue box. A. 3 B. 4 C. 5 D. None of these | С |
| 44. | CAD reduces the product design cycle because: A. Product can be tested several times as real model B. Lead time is increased C. Documentation for different purposes can be printed and used D. All of these | С |
| 45. | To change the thickness of a line in drawing needs to be in active state. A. By Layer menu B. LWT C. ORTHO D. Both A & B | В |
| 46. | Command is used to make multiple same objects at once. A. Copy B. Offset C. Array D. All of these | С |
| 47. | There are ways to enter commands in AutoCAD. A. One B. Two C. Three D. None of these | С |
| 48. | Which of the following command is used to draw 3D shaped drawing in 2D drawing view as isometric drawing. A. ISOPLANE B. GRID C. SNAP D. Both A & C | D |
| 49. | The size of Workspace/Worksheet in AutoCAD is A. Minimum 1×1 units B. Maximum 1000×1000 units C. Both of these are correct D. None of these | D |
| 50. | Command is used to move one side face of a 3D Cube. A. Move B. Offset faces C. Mirror D. None of these | D |
| 51. | Identify the correct statement. A. Intersect command is same as subtract command. B. Extrude faces is different from extrude command. C. One can use mirror and offset command for same purpose. D. All statements are wrong. | В |

| | There aretypes of views in view toolbar. | |
|-----|--|-----|
| | A. 2 | |
| | B. 3 | |
| 52. | C. 6 | A |
| | D. 10 | |
| | D. 10 | |
| | | |
| | Command is not likely to be used in most of engineering drawings. | |
| 53. | A. Spline | С |
| 55. | B. Poly line | C |
| | C. Multiline | |
| - | D. All of these. | |
| | no. of 3D commands are present in two different toolbars with the same icon | |
| | and same function in AutoCAD 2007. | |
| | A. 2 | |
| 54. | B. 3 | В |
| | C. 4 | |
| | D. 5 | |
| | | |
| | Identify the correct statement. | |
| | A. Trim command is opposite of extend command. | |
| 55. | B. Copy command is as same as erase. | D |
| 33. | C. Boundary command and explode commands are used for same purpose. | D |
| | D. 4 sided rectangle can be drawn by using polygon command. | |
| | E. All are wrong statements. | |
| | Large floating objects like rags and logs are separated from water by using: | |
| | A. Coarse screens | |
| 56. | B. Fine screens | A |
| 30. | C. Micro screens | A |
| | D. Fabric filter | |
| | E. All of these | |
| | Choose the correct statement: | |
| | A. The process of flocculation improves settling of particles in sedimentation | |
| 57. | tank | Α |
| | B. The process of flocculation decreases removal of colloidal solids | 4.1 |
| | C. The process of flocculation increases BOD of water | |
| | D. Microorganisms cannot be removed by coagulation and flocculation | |
| | Choose the correct statement: | |
| | A. Sedimentation rate increases with the increase in temperature. B. Upflow velocity of the water should be greater than the settling velocity in | |
| 58. | B. Upflow velocity of the water should be greater than the settling velocity in sedimentation basins. | A |
| 58. | C. The velocity of water is increased as it enters the settling zone of | А |
| | sedimentation tank. | |
| | Distinct particle settling is also known as zone settling | |
| 59. | Which is an effective process for the removal of flocs having low density: | |
| | A. Sedimentation | |
| | B. Flotation | В |
| | C. Settling D. Filtration | |
| | D. Tillation | |
| | | |

| 60. | If the volume of a settling tank is 2000m³ and water inflow rate is 19200 m³/d then the detention time will be: A. 2.5 h B. 1.5 h C. 130 min D. 3 h | A |
|-----|---|---|
| 61. | If we have to design a slow sand filter then which of the following sand sample will be selected: A. Sand with uniformity coefficient 2.3 and effective size 0.4 mm B. Sand with uniformity coefficient of 1.4 and effective size 0.3 mm C. Sand with uniformity coefficient of 2.7 and effective size 0.25 mm D. Sand with uniformity coefficient of 2.1 and effective size 0.05 cm | С |
| 62. | Choose the correct statement: A. The slow sand filters are not much effective in the removal of bacteria from water. B. The depth of base material varies from 20 to 30 cm for rapid sand filter. C. With the increase in head loss the filtration rate of filter bed is also increased D. Initial cost of rapid sand filter is less but maintenance cost is more. | D |
| 63. | If the average flow rate at a water treatment plant is 200 m³/h, then the number of filter unit beds required will be: A. 2 B. 1 C. 5 D. 3 | D |
| 64. | To prevent scouring in horizontal flow sedimentation tanks, the appropriate tank depth should be: A. < 2.5 m B. 2.5 m C. 25 cm D. < 1.5 m | В |
| 65. | Which of the following pH value will be suitable for the effective disinfection of water by using chlorine: A. 10 B. 7 C. 4.5 D. 6.5 | D |
| 66. | Choose the correct statement: A. GAC has more internal surface area than the PAC. B. Carbon dosage and flow rate are the important parameters when PAC is used for adsorption. C. Adsorption process with GAC columns is performed after sedimentation and sand filtration processes. D. The operating cost of GAC columns is high than PAC adsorption. | С |
| 67. | Choose the correct statement: A. Weak-acid cation resins cannot be used for carbonate hardness. B. Alkaline pH range is required for weak-base anion exchangers. C. To regenerate anion resins alkalis are used D. None of these | С |

| 68. | If we add calcium hypochlorite in water for disinfection, the pH of water will: A. Decrease B. Increase C. Becomes neutral D. Remains same | В |
|-----|--|---|
| 69. | By considering the feasibility and limitations of different disinfection processes, which of the following process should be used for a conventional water treatment plant with a large distribution system (for public supplies) A. Chlorination B. Ozonation C. UV irradiation D. Chloramination | A |
| 70. | Which of the following is an organic coagulant: A. Alum B. Poly-aluminium Chloride C. Chitosan D. Ferric Chloride | С |
| 71. | Method of cleaning for rapid gravity filters is: A. Scrapping the top layer B. Screening C. Reverse flow of water through the underdrainage system. D. None of these | С |
| 72. | Choose the correct statement: A. The purpose of coagulation is to destabilize dissolved particles B. High velocity is required to allow the floc particles to settle in the sludge zone C. The filter sand should generally be obtained from rock like granite D. Over flow rate is the upflow velocity of the water in the settling tanks | D |
| 73. | Which of the following statements is not correct: A. Particles or molecules are generally negatively charged at pH levels above 4.0 B. Adsorption is a surface phenomenon C. Short-circuiting is necessary for effective sedimentation. D. Adsorption capacity is determined by internal surface area of the adsorbents. | С |
| 74. | Which of the following particle characteristics has no effect on settling process: Size A. Shape B. Density C. Viscosity D. None of these | D |
| 75. | Which is not a line source of air pollution A. Highway vehicles B. Channel vessels C. Aircraft air emissions D. Gas leakage | D |
| 76. | Types of air pollution w.r.t. place of exposure are A. 2 B. 3 C. 4 D. 5 | В |

| 77. | Ozone Concentration iswith altitude. A. Remains same B. Increases C. Increases and then remains almost same D. Remains almost same and then increases | D |
|-----|--|---|
| 78. | OLD is most vulnerable in A. Northern hemisphere B. Southern hemisphere C. North pole D. All of these | В |
| 79. | Which scenario will likely to be follow by the end of this century from climate change perspective? Keep in view the fact that petroleum products likely to be diminished after 2050. MULTI-MODEL AVERAGES AND ASSESSED RANGES FOR SURFACE WARMANG 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1. | A |
| 80. | Which is more dangerous to human from respiration perspective. A. Dry Deposition B. Wet Deposition C. UV-radiation D. Both A & B | A |
| 81. | Which is not responsible for formation of Photochemical Smog? A. PAN B. Tropospheric Ozone C. VOC's D. Carbon dioxide | D |
| 82. | Which factor dominates in declaring Beijing as most vulnerable to air pollution issues? A. Its Population B. Traffic problem C. Its Topography D. All of these | С |

| 83. | Best possible way to reduce air pollution problems from vehicular emissions in developing contries. A. Electric cars B. Maintenance of vehicles C. Ban on use of cars D. All of these | В |
|-----|--|---|
| 84. | studies upper atmospheric layer. A. Meteorology B. Metrology C. Atmospheric stratification D. None of these | D |
| 85. | Which meteorological parameter is responsible for chemical transformation of air pollutants? A. Wind speed B. Temperature C. Solar Radiation D. Precipitation (Rain) | С |
| 86. | The layer extending from the top of the viscous sub-layer to about 10% of the depth of the PBL is A. Viscous layer B. Viscous Sub-Layer C. Surface Layer D. Ekman Layer | С |
| 87. | If a chimney lies in an atmosphere where there is turbulence that leads to pollutant mixing at a very high rate. This condition indicates A. Adiabatic compression B. Stable atmosphere C. Unstable atmosphere D. Adiabatic expansion | С |
| 88. | Dry adiabatic lapse rate is always greater than saturated adiabatic lapse rate because A. adiabatic compression is more prominent in dry adiabatic condition B. Water vapors in saturated condition absorbs some heat C. Temperature Inversion is more in dray adiabatic condition D. Both B & C | В |
| 89. | Inversion is more prominent phenomenon in night time. A. Temperate B. Radiative C. Subsidence D. Both A & B | В |
| 90. | Scavenging mechanism refers to A. Variation of wind speed and direction B. PM Formulation and removal C. Self-Purification of atmosphere D. None of these | В |
| 91. | Which difference best describe difference b/w noise and sound to a layman. A. Sound is essential to us but noise is not B. Sound is pleasant and noise is unpleasant C. There is symmetry of sound wave in sound but noise is produced by unsymmetrical sound waves D. All of these | A |
| 92. | The noise produced by aircraft is kind of noise. A. Instant Noise B. Intermittent Noise | С |

| | C. Impulse Noise D. None of these | |
|------|--|---|
| 93. | Noise pollution can cause A. Respiratory problems B. Hearing Impairment C. Lund cancer D. None of these | В |
| 94. | Unit for measuring sound intensity is? A. Decibel (dB) B. Hertz C. W/m² D. None of these | С |
| 95. | Identify the correct statements. A. Air pollution monitoring helps to improve AQM if it is done at initial stage. B. Air pollution monitoring helps to improve AQM if it is done at all stages. C. Air pollution monitoring helps to improve AQM if it is done after Quality control (QC). D. Air pollution monitoring gives incomplete pollutant information at a location for a monitoring period. | В |
| 96. | For monitoring air pollution levels at a location far away from populated area samples are likely to be collected. A. Passive B. Grab C. Integrated D. Representative | В |
| 97. | Chemiluminescence measurement means measurement by A. Reaction B. Light C. Absorbance D. Thermal conversion | В |
| 98. | Calibration of air samplers is done to cope up/compensate A. Flow rate change B. Air direction C. Temperature change D. Light penetration | С |
| 99. | The emission of pollutants from a chimney shows looping trend. The emission factor for Sulphur Dioxide is 51mg/Kg. Air filters are also attached with control efficiency of 73%. Total emission of pollutant for burning of 21 kg of coal in a day is A. 3 ppm B. 770 mg/Kg C. 3 mg D. 0.77 kg | С |
| 100. | Indicate sources of fugitive emissions. A. Hydrocarbons B. Volatile substances C. Gas pipeline leakages D. Hydrogen sulphide emission from sewers | С |
| 101. | Which is most favorable emission reduction approach with the restriction of low budget for pollution remediation? A. End of pipe treatment B. Reuse C. Recycle D. Cleaner production | D |

| 102. | Particle with size is most likely to be removed by gravity separation? A. Less than 1 micrometer B. B/w 1 to 2.5 micrometer C. 7.5 micrometer D. 10 micrometer | D |
|------|--|---|
| 103. | The purpose of mist eliminator in scrubbers is to A. Increase Contact of pollutant with scrubber B. Decrease the PM size C. Decrease input power D. E. None of these | D |
| 104. | The most preferable mechanism for gaseous pollutant removal from the following is A. Physical adsorption Diffusion B. Chemisorption C. All of these | A |
| 105. | Which of the following contribute to emission formation from mobile sources. A. Crankcase emissions B. Diffusion of gasoline particles into air C. Leakage from pumping stations D. All of these | A |
| 106. | In diesel engine the CO emissions increases as F/A Ratio A. Shifts from lean to stoichiometric condition B. Increases C. Decreases D. Remains constant | В |
| 107. | Which air dispersion model is preferably used for an industrial unit with a number of pollutant emitting appliances/sections. And there are other sources nearby that contribute to pollutant emission from industrial unit due wind direction. A. Box model B. Gaussian model C. CALPUFF D. ADMS | A |
| 108. | Which of the following produces Impulse Noise? Lawn Mover A. Air Craft B. Rock and Roll Concert C. Heavy Truck Traffic D. Gun Fire | В |
| 109. | is characteristic of Noise? A. Sound Pressure B. Sound Intensity C. Location D. All of these | D |
| 110. | When the social events (e.g. parties) are not oftenly happened, they can be termed as rather than noise pollution. Loud sound Impairing sound Nuisance | С |

| | Low noise events | |
|------|---|---|
| 111. | Which type of mechanism is likely to be adopted to transmit noise indoors? A. Conversion of sound energy to thermal energy B. Reflected most of the sound and absorbing the extra sound C. Transmitting low frequency sound and reflecting high frequency sound D. All of these | A |
| 112. | What are the indicators that show workplace has noise hazard? A. Workers hear ringing in your ears after leaving work B. Workers feel pain and immediate hearing loss C. All of these D. None of these | A |
| 113. | Commercial sound absorbing material absorb of sound. A. 40% B. 50% C. 60% D. More than 60% | D |
| 114. | Use of pliers instead of hammer when possible is an example of type noise emission control. A. Source Emission B. Source reduction C. Engineering control D. Receiver control | A |
| 115. | Engineering that deals with the preservation & maintenance of health of individual & community, by preventing communicable diseases is: A) Public health Engineering B) Sewerage Engineering C) Sanitary Engineering D) All of these | С |
| 116. | deals with the treatment and reuse of wastewater. A) water supply engineering B) wastewater engineering C) public health engineering D) none of these | В |
| 117. | Goal of wastewater engineering is A) Protect public health B) provide save water C) reuse of water D) all of these | A |
| 118. | Sewage is composed of: A) 90% liquid & 10% solids B) 95% liquid & 5% solids C) 99% liquid & 1% solids D) 99.9% liquid & 0.1% solids | D |
| 119. | COD value is always BOD value for a sample: A) less than B) greater than C) half of D) equals | В |
| 120. | Performance efficiency of a plant is given as: A) Volume/inflow B) (influent constituents-effluent constituents)/ influent constituents C) treated water/total water D) none of these | В |
| 121. | Major factor effecting health and comfort of individuals: A) wastewater generated at high rate B) Improper disposal of human waste and sewage C) none of these D) all of these | В |
| 122. | Chemical precipitation was firstly tried inin year A) Germany in 1882 B) India in 1700,s C) England in 1762 D) none of these | С |
| 123. | Wastewater Farming was practiced in A) Germany in 1550 B) India in 1750 | D |

| John Philips was the first Engineer who | | C) England in 1700 D) Both A & C | |
|--|--------|---|---|
| A) Practiced wastewater Farming C | | John Philips was the first Engineer who . | |
| 124. B) Tried Chemical precipitation C) Makes a comprehensive study of metropolitan sewage needs D) All of these In united states J.W Adams firstly applied to design sewer system in Brooklyn. A) Wastewater treatment B) Chemical precipitation D. Engineering knowledge D) Wastewater farming The general term used to indicate what is rejected as worthless is 126. A) Refuse C) Sewage D) All of these Refuse found in Form. B) Garbage C) Semi-solid D) All of these Refuse is divided into Categories. A) A Liquid B) Solid D) All of these Refuse is divided into Categories. A) A Rubbish B) Garbage C) Dry waste D) both A & B C) The decomposition of Produces large quantities of malodorous gases. A) A) Grganic matter B) Sullage C) Sewage D) none of these The water that enters into sewers through leaks is called A) A) Grganic matter B) Garbage C) Sewage D) none of these The water that enters into sewers through leaks is called A) A) A) Grganic matter B) Garbage C) Sewage D) All of these D) All of | | | |
| C) Makes a comprehensive study of metropolitan sewage needs D) All of these In united states J.W Adams firstly applied to design sewer system in Brooklyn. A) Wastewater treatment C) Engineering knowledge D) Wastewater farming The general term used to indicate what is rejected as worthless is A) Ratewater freatment C) Sewage D) All of these Refuse found in Form. A) Liquid B) Solid C) Semi-solid D) All of these Refuse is divided into Categories. A) A 4 C) B B) Garbage B) Garbage C) Dy waste A) Outfall sewer B) Ground water C) subsurface water b) All of these C) C) Sewage D) All of these B) Garbage C) Drow waste D) None of these C) C) Sewage D) None of these C) C) Sewage D) All of these C) Sewage D) All of these C) Drow state of the sewers through leaks is called A) Surface water C) Subsurface water D) All of these C) Sewage D) Sewage D) Sewage D) Sewage C) Sewage D) Sewage C) | 124. | | С |
| D) All of these In united states J.W Adams firstly applied to design sewer system in Brooklyn. A) Wastewater treatment B) Chemical precipitation C C Engineering knowledge D) Wastewater farming C Engineering knowledge D) Wastewater farming C Engineering knowledge D) Wastewater farming A Refuse D A Refuse B Garbage A C C Sewage D All of these D | | | |
| 125. A) Wastewater treatment | | | |
| A) Wastewater treatment B) Chemical precipitation C) Engineering knowledge D) Wastewater farming The general term used to indicate what is rejected as worthless is | | In united states J.W Adams firstly applied to design sewer system in | |
| A) Wastewater treatment C) Engineering knowledge D) Wastewater farming The general term used to indicate what is rejected as worthless is A) Refuse C) Sewage D) All of these Refuse found in Form. A) Liquid B) Solid C) Semi-solid D) All of these Refuse is divided into Categories. A) 4 B) 6 C) 8 D) 10 Which of the following indicate dry refuse? A) Rubbish B) Garbage C) Dry waste D) both A & B The decomposition of Produces large quantities of malodorous gases. A) Organic matter B) Sullage C) Sewage D) none of these The water that enters into sewers through leaks is called B) Ground water C) subsurface water D) All of these The sewer that collects water directly from the houses is B) All of these The sewers bard collects water directly from the houses is B) Almain sewers C) Lateral sewers D) Sub-main sewer C) Lateral sewers D) Sub-main sewer The sewer which receives water from relatively small area and discharged into main B) Almain sewers C) Lateral sewers D) Sub-main sewer The sewer which receives water from relatively small area and discharged into main B) C) Sub-main sewer The sewer which receives water from relatively small area and discharged into main B) C) Sub-main sewer D) Both A & C The sewer which receives water from relatively small area and discharged into main B) Lateral sewers C) Lateral sewers D) Sub-main sewer C) Intercepting sewer D) none of these The sewer which is laid transversely to general sewer system to intercept the dry-weather flow of sewage. A) Outfall sewer D) none of these The sewer which is laid transversely to general sewer system to intercept the dry-weather flow of sewage. A) Outfall sewer D) none of these The sewer that receives the sewage from the collecting system and conducts it to a point of final discharge. A) Outfall sewer D) none of these The sewer that receives the sewage from the collecting system and conducts it to a point of final discharge. A) Outfall sewer D) none of these | 125 | Brooklyn. | C |
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| Waste water treatment is combination of? c) a) physical process b) chemical process c) cleritary process d) all of these Waste water should be treated in order to remove? a) reduce the spreading of un communicable diseases c) reduce the spreading of communicable diseases d) none of these Methods of treatment in which physical forces predominates are? 412. a) unit operation c) unit operation c) unit operation c) unit process d) none of these Methods of treatment in which chemical and biological activity are involved are? d) an intigesters d) screening Methods of treatment process includes? Methods of treatment process includes? d) unit processes d) unit operation physical treatment process includes? e) unit glesters d) screening d) unit operation physical treatment process includes? d) unit operation e) adsorption d) unit operation e) adsorption d) none of these Chemical units have following process? a) sedimentation e) gast transfer e) floation d) none Example of biological activity is? d) gast transfer e) adsorption e) dy tricking filtration preliminary process consists of? a) sedimentation of organic suspended solids e) removal of dissolved organic compounds e) pumping and flow measurement d) none of these Which process includes in secondary treatment for the removal of organic matter? which process includes in secondary treatment for the removal of organic matter? which process includes in secondary treatment for the removal of organic matter? which process includes in secondary treatment for the removal of organic matter? which process includes in secondary treatment for the removal of organic matter? which process includes in secondary treatment for the removal of organic matter? 148. a) physical process d) preliminary process e) biological process d) preliminary process e) biological process d) preliminary process e) biological process d) all of these Pollutants may include soluble inorganic compounds are? a) phosphorus and sulphur e) c) clorine and phosphorus d) phosphorus and nitrogen The cost of was | | C) over flow sewer D) Both A & C | |
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| 140. a) physical process b) chemical process c) tertiary process d) all of these | | Wests water treatment is combination of? | |
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| | c) use of efficient chemicals d) all of these | |
|------|---|---|
| 156. | The re-use of domestic waste in agriculture is about use in china at present? a) over80% b) over 88 % | D |
| | c) over 70% d) over 90 % Night soil contains about Of nutrients actually used by crops? | |
| 157. | Night soil contains about Of nutrients actually used by crops? a) one-third b) two-third c) one fourth d) one fifth | A |
| 158. | The sludge and concentrated pollutants are disposed of? a) by dumping b) by throwing into sea c) in lagoons d) by landfill | С |
| 159. | Sewers are commonly laid in? a) straight lines b) inclined lines c) from higher to lower elevations d) according to specific area | A |
| 160. | According to health criteria treatment method chosen should be such that? a) higher degree of pathogen destruct b) neutralization of chemical pollutants c) removal of organic solvents d) all above | D |
| 161. | a) DO b) COD c) B0D d) Molecular Oxygen | С |
| 162. | System should operate with? a) highly qualified staff b)greater degree of spill c) high training should necessary d) minimum difficulties | D |
| 163. | If the end products are not re-used than there? a) dumping is effective b) disposal is achieved with capital cost c) disposal is achieved with minimum cost d) none of these | С |
| 164. | How many types of refuse: a) four b) three c) two d) b & c | С |
| 165. | Animal excreta also known as: a) dry waste b) animal waste c) night soil d) none | С |
| 166. | Garbage indicates dry refuse from: a) commercial area b) residential area c) industrial area d) all of these | В |
| 167. | The waste water collected from community known as: a) sullage b) refuse c) sewage d) sub soil waste | С |
| 168. | The sanitary system should be managed: a) rapidly b) within 2 0r 3 days c) within few hours d) a or c | D |
| 169. | Disease caused by waste water: a) dysentery b) cholera c) malaria d) chickenpox | В |
| 170. | Surface water contamination give rise to: a) odor nuisance b) mosquito nuisance c) fly nuisance d) a or b | D |

| How many system are used for waste disposal a) three b) two c) four d)none The waste disposal conservancy system is: a) newly designed b) old method c) conventional method d) a & c Conservancy system is also known as: | В |
|--|----------|
| The waste disposal conservancy system is: a) newly designed b) old method c) conventional method d) a & c | D |
| a) newly designed b) old method c) conventional method d) a & c | D |
| a) newly designed b) old method c) conventional method d) a & c | D |
| c) conventional method d) a & c | |
| | В |
| Conservancy system is also known as: | |
| | |
| 173. a) old system b) dry system | В |
| c) a & b d) none | |
| In conservancy system, the dry soil is collected: | |
| a) mechanically b) manually | В |
| c) by machines d) automatically | |
| In conservancy system ,The night soil is disposed into: | |
| a) open fields b) grounds | В |
| c) drains d) none | |
| The night soil buried into ground give excellent manure in : | |
| a) one to two years b) two to three years | A |
| c) few months d) one month | |
| In conservancy system, the garbage collected in: | |
| a) once or two times in day b) three times | A |
| c) in nights d) one or two times in week | |
| Garbage consists of waste matter: | |
| a) combustible b) non combustible | С |
| c) a & b d) only a | |
| Garbage sorted out in parts: | |
| 179. a) two b) three | A |
| c) one d) a & c | |
| Which method is more satisfactory, if controlled properly for garbage disposal: 180. a) incineration b)dumping | A |
| a) incineration b) dumping c) open dump d) hog feeding | A |
| In conservancy system, sullage and storm water are conveyed in closed gutters: | |
| 181. a) combined b) separately | В |
| c) a & c d) none | В |
| The water carriage system was opposed by: | + |
| 182. a) physicians b) agriculturist | D |
| c) hydrologist d) a or b | |
| In which country, conservancy system is still in vogue: | + |
| 183. a) India b) Bangladesh | A |
| c) a & b d) none | |
| The excreta starts decomposing within: | |
| 184. a) few hours b) one day | Α |
| c) few seconds d) few minutes | <u> </u> |
| The excreta remaining in previes give rise to: | |
| 185. a) mosquito nuisance b) fly nuisance | В |
| c) a & b d) none | |
| Which system depends entirely on labours: | |
| 186. a) water carriage system b) conservancy system | В |
| c) a & b d) none | |
| The maintenance cost of which system is very high: | |
| a) conservancy system b) water carriage system | A |
| 1 1 2 0 1 | |
| c) a & b d) none | 1 |
| The medium used to convey waste in water carriage system: | _ |
| · · · · · · · · · · · · · · · · · · · | В |

| | The labour required for water ca | urriage system is : | |
|------|---|--|---|
| 189. | - | no need | Α |
| | 1 ' | extremely small | |
| | The flow takes place in water ca | • | |
| 190. | <u>-</u> | gravity | В |
| | 1 1 = 1 | bumping | |
| | Which system is more suitable: | | |
| 191. | | water carriage system | В |
| | | no one | |
| | Water closests are flushed with | water: | |
| 192. | a) 5 to 10 liters | b) 1 to 5 liters | Α |
| | c) 1 to 4 liters | d)1 to 3 liters | |
| | Types of water carriage system: | | |
| 193. | a) two | b)three | В |
| | c) four | d) five | |
| | How many systems are used in s | separate system: | |
| 194. | a) one | b) two | В |
| | c) three | d) either one or two | |
| | During less rainfall pattern syste | | |
| 195. | a) combined | b) separate | В |
| | c) partially combined | d) either a or b | |
| | Separate system is used when: | | |
| 196. | a) rainfall is even | b) area is large | C |
| | c) country is flat | d) all of these | |
| | If area is in steep topography we | <u>=</u> | |
| 197. | a) separate system | b)combined | A |
| | c) partially combined system | d) a or b | |
| | Choking effect increase in: | | _ |
| 198. | a) partially combined system | b) combined system | C |
| | c) separate system | d) b and c | |
| 100 | Working of sewer system depen | | |
| 199. | a) self-cleansing velocity | | Α |
| | c) depth | d) size | |
| 200 | Cost of installation is low in: | 1) 1: 1 / | |
| 200. | a) separate system | b) combined system | A |
| | c) partially combined system | d) all of these | |
| 201 | Lifting of sewage in combined s | | D |
| 201. | a) gravity flow | b) pumping | В |
| | c) active flow system | d) a and b | |
| 202 | For hard subsoil we lay: | h) combined exector | |
| 202. | a)partially combined system | b) combined systemd) all of these | С |
| | c) separate system Combined system is used when | , | |
| 203. | <u> </u> | area is: b) small | C |
| 203. | a) large c) restricted | c) not more than 1cm | |
| | If the quantity of sewage is small | , | |
| 204. | a) combined sewer | b) partially combined | A |
| 204. | c) separate system | c) a or b | |
| | In partial combined system sewe | , | |
| 205. | a) one | b)two | A |
| 203. | c) three | d) either a nor b | |
| | Main disadvantage of partially c | , | + |
| 206. | a) self-cleansing velocity | b) area is small | A |
| 200. | c) sewage quantity is small | d) all of these | |
| | System used for urban system: | a, an or mose | |
| 207. | a) conservancy system | b) water carriage system | В |
| | a, conservancy system | o, rator curruge system | |

| | c) separate system d) partially combined system | |
|------|--|-----|
| | Non-rainfall periods are called | |
| 208. | <u> </u> | A |
| 200. | a) DWF b) Wet WF c) Scarcity Period d) Rainfall Time | 7 1 |
| | Dry weather flow is also called | |
| 209. | a) Sanitary sewage b) Storm sewage | Α |
| 20). | c) Industrial sewage d) Domestic sewage | 7 1 |
| | Minimum quantity for sewers design is | |
| 210. | a) 100LCD b) 180LCD | D |
| 210. | c) 220LCD d) 150LCD | |
| | In cities where FSL or FAR limits are fixed by authorities | |
| 211. | a) Municipal b) FDA | A |
| 211. | | |
| | c) City d) Government Design period of sewers is of years | |
| 212. | a)30 b)40 | A |
| 212. | 1 / | A |
| | | |
| 213. | The waste water is produced may be assumed to of water supplied. a) 60-70% b) 70-80% | В |
| 213. | a) 60-70% b) 70-80% | Ь |
| | c) 60-90% d) 70-90% | + |
| 214 | Flow of waste Water from sewers to ground is | C |
| 214. | a) Infiltration b) If-filtration | |
| | c) Exfiltration d) None of these | |
| 215 | Infiltration in areas basis is expressed as | В |
| 215. | a) 5000 m ³ /H/D b) 5000L/H/D | |
| | c) 5000L/H/Sec d) 5000L/H/Min | |
| 21.5 | Infiltration in length basis is expressed as | A |
| 216. | a) 50000L/Km/D b) 500000L/m/D | |
| | c) 50000L/Km/Min d) 450000L/Km/D | |
| | Rate of infiltration will increase with in diameter. | |
| 217. | a) Increasing b) Decreasing | A |
| | c) By keeping constant d) Both a and c | |
| | Limitation of Babbit formula is | |
| 218. | a) P=1000-100000 b) P=100-10000 | D |
| | c) P=10-10000 d) P=1-1000 Bench mark for minimum and maximum low rate is | |
| | | |
| 219. | a) Average flow rate b) Yearly flow rate | A |
| | c) DWF rate d) Storm weather flow rate | |
| | Peaking is a ratio of | |
| 220. | a) Peak flow/Average flow b) Average flow/Peak flow | A |
| | c) Minimum flow/Maximum flow d) Average flow/Maximum flow | |
| | The range of peaking factor is | |
| 221. | a) 1.5-2 b) 1-1.5 | A |
| | c) 2.5-3 d) 3.5-4 | |
| | in laterals, infilling flow flay be between of average flow | |
| 222. | a) 20-30% b) 30-40% | A |
| | c) 40-50% d) 50-60% | |
| | In main and trunk sewers, the minimum flow may of average flow | |
| 223. | a) 20-30% b) 30-40% | C |
| | c) 40-60% d) 50-60% | |
| | Storm water flow is also called | |
| 224. | a) WWF b) DWF | A |
| | c) Non rainfall period d) None of these | |
| | Duration of storm is equal to | |
| 225. | a) Time of concentration b) Time of entry | A |
| | c) Time of exist d) None of these | |

| | Where rainfall records are not available formula are used | |
|------|--|----|
| 226. | a) Complex b) Rational | C |
| | c) Empirical d) None of these | |
| | In general formula where t=20-100 minutes than | |
| 227. | a) a=20, b=40 b) a=40, b=20 | В |
| 227. | c) a=30, b=40 d) a=20, b=10 | D |
| | c) a=30, b=40 d) a=20, b=10 Time of concentration (t _c) is | |
| 228. | a) t_e+t_f b) t_e-t_f | A |
| 220. | a) $t_e + t_f$ b) $t_e - t_f$ c) $t_f + t_e$ d) None of these Point of concentration is at which maximum is being estimated | A |
| | C) If + Ie U) Note of these | |
| 220 | Point of concentration is at which maximum is being estimated | D |
| 229. | a) Rainfall b) Runoff | В |
| | c) Precipitation d) None of these | |
| | Time of entry decreases with the increase in | |
| 230. | a) Impervious factor b) Height | C |
| | c) Slope d) All of these | |
| | Time of entry for steepest slope is | |
| 231. | a) 5min b) 4min | C |
| | c) 3min d) 2min | |
| | Time of entry for grassy plots is | |
| 232. | | D |
| | a) 50min b) 40min c) 30min d) 20min | |
| | Maximum runoff occurs when duration of storm to time of concentration | |
| 233. | a) Is equal b) Is greater | A |
| 233. | c) Is lesser d) Both a and b | I |
| | Area draining to dam side is called | |
| 224 | | C |
| 234. | a) Impervious area b) Rainfall area | С |
| | c) Catchment area d) None of these Highly priced areas should be subjected to frequent flooding than | |
| | | |
| 235. | residential | A |
| 233. | a) < b) > | 11 |
| | c) = d) Both b and c | |
| | Peak factor for population above 7,50,000 is | |
| 236. | a) 1 b) 2 | В |
| | c) 1.5 d) 2.5 | |
| | Peak factor depends upon the | |
| 237. | a) Slope b) Area | C |
| | c) Population d) None of these | |
| | Peak factor 2.5 is suggested for the population | |
| 238. | a)50000-7,50,000 b) 10000-500000 | C |
| 250. | c)20000-500000 d) 20000-2,50,000 | |
| | Time of flow is calculated by formula t _f | |
| 239. | a) v_f -at b) V_f^2 - v_i^2 | С |
| 239. | | C |
| - | c) Distance / Velocity d) None of these | |
| 240 | Time required to fill the sewers known as | |
| 240. | a) Time of outflow b) Time of inflow | С |
| | c) Time of storage d) Time of action | |
| | If duration of storm is longer than t _c ,then rainfall intensity will be | _ |
| 241. | a) More b) Less | В |
| | c) Equal d) Both b and c | |
| 242 | The solid matter present in the form of organic matter in sewage. | A |
| 242. | A. 0.1-0.2% B. 1-2% C. 1-3% D.2-3% | |
| | Inner surface of the sewer must be resistant to Solid particles, | |
| 243. | A. abrasive action B. siltation C. Erosion D. none | A |
| | THE ADMANDE ACTION DESCRIPTION OF THE PROPERTY | |
| | | |
| | Chezy's formula is | |
| 244. | | С |

| | 011 (00 | |
|------|---|---|
| 245. | For cement concrete pipes of dia. 600mm and above value of N is, A. 0.014 B. 0.013 C. 0.012 D. 0.0013 | В |
| 246. | Manning formula is | A |
| 247. | Manning formula is widely used by A. USA B. UK C. England D. Canada | A |
| 248. | Hazen & William's formula is. A. V=0.84CR B. V=0.85CR ^{.63} s ^{.54} C. V=RS D. None | В |
| 249. | The minimum velocity required in sewers to avoid clogging A. gentle B. self-cleaning C. moderate D. none | В |
| 250. | The drag force exerted by the flowing water on a channel is given by A. t=r _w RS B. t=rS C. t=RS D. None | A |
| 251. | Weight of sediment of unit length and unit width is given by A. W=r _{sub} *1*1*t B. W=r _{sub} *1*1 C. W=r _{sub} D. None | A |
| 252. | For circular pipes running full R= A. R=D/4 B. R=D/2 C. R= $D^2/4$ D. R=D | A |
| 253. | Self-cleaning velocity is used to avoid, A. erosion B. Abrasion C. both D. Clogging | D |
| 254. | The max velocity at which no scouring or abrasion occurs called A. Non Clearing B. Non Clogging C. Non scouring D. None | В |
| 255. | Abrasion is max at | В |
| 256. | Velocity of flow in sewer is a function of, A. $R^{2/3}$ B. $R^{1/2}$ C. $S^{1/2}$ D. $S^{2/3}$ | A |
| 257. | When the sediment is just on the point of sliding then, A. t=R B. t=L C. t=S D. none | A |
| 258. | Common value of 'f' is taken as A. 0.04 B. 0.03 C. 0.02 D. 0.003 | В |
| 259. | Value of Gs for In-organic sediments A. 2.66 B. 2.65 C. 2.68 D. 2.64 | В |
| 260. | Value of Gs for organic sediments A. 1.2 B. 1.1 C. 1.3 D. 1.4 | A |
| 261. | Value of B for for initiating scour for clean grit is A. 0.04 B. 0.004 C. 0.00004 D. none | A |
| 262. | Santo-crimps table is based on formula A. Crimps & burgs B. Manning's C. Kutter's D. All | A |
| 263. | Kutter's formula was given in A. 1876 B. 1869 C. 1870 D.1888 | В |
| 264. | Crimps & Burgs formula generally used in A. USA B. UK C. England D. Canada | С |
| 265. | Kutter's formula gives the expression for coefficient. A. Manning's B. Chezy's C. Burg's D.All | В |
| 266. | Bazin's formula was given in A. 1895 B. 1896 C. 1897 D. 1899 | С |
| 267. | The velocity which keeps the solid in suspension from is: (A) Uniform velocity (B) Cleansing velocity (C) Normal velocity (D) None. | В |

| | During minimum flow of the Sewage, the velocity flow is the self cleansing | |
|------|--|---|
| 268. | velocity: | В |
| 200. | (A) Equal (B) less than | |
| | (C) Greater than (D) None | |
| 260 | Self cleansing velocity should be maintained at least | |
| 269. | (A) Once in a day (B) twice a day (C) Thrise a day (D) Four times a day | A |
| | (C) Thrice a day (D) Four times a day The formula for self cleansing is given as | |
| 270. | The formula for self cleansing is given as | |
| | | |
| 271 | At higher velocity the flow becomes | D |
| 271. | (A) Zero (B) linear (D) Typhylant | D |
| | (C) Steady (D) Turbulent The maximum velocity at which no scouring action or abrasion takes place is | |
| | known as | |
| 272. | (A) Self cleansing velocity (B) Non cleansing | C |
| | (C) Non scouring velocity (D) Scouring velocity | |
| | Where abrasion is maximum | |
| 273. | (A) Bottom (B) Top | A |
| | (C) Intermediate (D) 45 | |
| | The velocity of flow is a function of | |
| 274. | | |
| | The bottom of large sewers of brick or concrete are protected by | |
| 275. | (A) Lining (B) Maximum discharge | A |
| | (C) minimum discharge (D) All of these | |
| | For flat countries the self cleansing velocity should be obtained at | |
| 276. | (A) Zero (B) 360cm/s | D |
| | (C) Minimum discharge (D) Maximum discharge | |
| | For steep slope drop manhole should be provided | |
| 277. | (A) To bring up the velocity (B) to bring down the velocity | В |
| | (C) to become it zero (D) All of these | |
| 278. | The formula for the proportional H.M.D. is | |
| | To formula for managinal discharge is a/O | |
| 279. | To formula for proportional discharge is $q/Q =$ | |
| | | |
| 200 | Darcy – Weis batch friction factor is f, the value of which is taken commonly as | |
| 280. | (A) 0.01 (B) 0.02 (D) 0.3 | C |
| | (C) 0.03 (D) 0.3 When sewer runs half full what will be angle | |
| 281. | (A) 360 (B) 45 | C |
| 201. | (C) 180 (D) None | |
| | The formula for the velocity of flow is | |
| 282. | | |
| | Greatest H.M.D. is of sewer | |
| 283. | (A) Rectangular (B) Trapezoidal | C |
| 203. | (C) Circular (D) None | |
| | The velocity of flow should be out least for maximum flow is | |
| 284. | (A) 90cm/s (B) 45cm/s | A |
| | (C) 60cm/s (D) 0.9cm/s | |
| | For sewer in rough countries, the non scouring velocity should obtain at | |
| 285. | (A) Max. flow (B) Min. flow | A |
| | (C) zero (D) 60cm/s | |
| | Sticky particles require | |
| 286. | (A) Low velocity (B) High Velocity | В |
| | (C) 2m/s (D) 45cm/s | |

| 287. | Rugusity coefficient is given as (A) Actual flow path/min. distance (B) Min. flow path/max. distance (C) Actual flow path/ min. distance (D) Max. flow path/max. distance | A |
|----------------------|---|---------|
| | If diameter is 785cm, and the sewer is running half full, what will be the hydraulic | |
| | radius | |
| 288. | | C |
| | (A) 0.785m (B) 0.15m | |
| | (C) 1.9625m (D) 2.53m | |
| • • • • | 1 hec = how much meter square | |
| 289. | (A) 10000 (B) 1000 | A |
| | (C) 100000 (D) None. | |
| | Calculate velocity of flow if, N=0.012, R=0.496m, S=0.001 | |
| 290. | (A) 2.21m/s (B) 0.97m/s | C |
| | (C) 1.65m/s (D) 3.45cm/s | |
| | If angel = 121 find out proportional H.M.D, r/R = | |
| 291. | (A) 0.478 (B) 0.593 | В |
| | (C) 0.496 (D) 0.521 | |
| | The Pipes used for variable discharge are: | |
| 292. | A) circular pipes B) rectangular pies | C |
| | C) egg shaped pipes D) semi-circular pipes | |
| | Pipes used for combined system are: | |
| 293. | | |
| ∠y 3 . | A) egg shaped B) circular C) avaid servers D) both A & C | D |
| | C) ovoid sewers D) both A & C | |
| | It is difficult to attain Self- Cleaning Velocity in: | |
| 294. | A) circular pipes B) rectangular pies | A |
| | C) egg shaped pipes D) semi-circular pipes | |
| | By Using Egg-shaped pipes we can attain self-cleaning velocity: | |
| 295. | A) at maximum flow B) at low flow | В |
| | C) at Average flow D) none of these | |
| | The upper portion of Egg-shaped pipes is called as: | |
| 296. | A) invert B) arch | В |
| | C) venture D) none of these | |
| | For Egg-shaped pipes Area is divided into: | |
| 297. | A) one portion B) two portions | C |
| <i>291</i> . | | |
| | | |
| | Diameter of circular pipe (D) is times the diameter of egg-shaped pipe | |
| 298. | (D_o) : | |
| _, _, | | A |
| | A) 1.2 times B) 1.25 times | A |
| | C) 1.5 times D) 2 times | A |
| | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: | |
| 299. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² | A B |
| 299. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: | |
| 299. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² | |
| | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: | |
| | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes | В |
| | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these | В |
| 300. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: | В |
| 300. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch | В |
| 300. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch C) venture D) none of these | В |
| 300. | C) 1.5 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch C) venture D) none of these For Egg-shaped sewer running full Area of central portion is given as: | B C A |
| 300. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch C) venture D) none of these For Egg-shaped sewer running full Area of central portion is given as: A) 1.57 b ² B) 2.80 b ² | В |
| 300. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch C) venture D) none of these For Egg-shaped sewer running full Area of central portion is given as: A) 1.57 b ² B) 2.80 b ² C) 1.06 b ² D) .23 b ² | B C A |
| | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch C) venture D) none of these For Egg-shaped sewer running full Area of central portion is given as: A) 1.57 b ² B) 2.80 b ² C) 1.06 b ² D) .23 b ² For Egg-shaped sewer running full in Area of invert portion is given as: | B C A B |
| 300. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch C) venture D) none of these For Egg-shaped sewer running full Area of central portion is given as: A) 1.57 b ² B) 2.80 b ² C) 1.06 b ² D) .23 b ² For Egg-shaped sewer running full in Area of invert portion is given as: A) 1.57 b ² B) 2.80 b ² For Egg-shaped sewer running full in Area of invert portion is given as: A) 1.57 b ² B) 2.80 b ² | B C A |
| 300. 301. 302. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch C) venture D) none of these For Egg-shaped sewer running full Area of central portion is given as: A) 1.57 b ² B) 2.80 b ² C) 1.06 b ² D) .23 b ² For Egg-shaped sewer running full in Area of invert portion is given as: A) 1.57 b ² B) 2.80 b ² C) 1.6 b ² D) .23 b ² | B C A B |
| 300. 301. 302. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch C) venture D) none of these For Egg-shaped sewer running full Area of central portion is given as: A) 1.57 b ² B) 2.80 b ² C) 1.06 b ² D) .23 b ² For Egg-shaped sewer running full in Area of invert portion is given as: A) 1.57 b ² B) 2.80 b ² For Egg-shaped sewer running full in Area of invert portion is given as: A) 1.57 b ² B) 2.80 b ² | B C A B |
| 300. 301. 302. | C) 1.5 times D) 2 times For Egg-shaped sewer running full Area of crown portion is given as: A) 1.57 b B) 1.57 b ² C) 1.06 b D) 1.06 b ² In soft soils, these pipes are not used: A) circular pipes B) egg shaped pipes C) both of these D) none of these The lower portion of Egg-shaped pipes is called as: A) invert B) arch C) venture D) none of these For Egg-shaped sewer running full Area of central portion is given as: A) 1.57 b ² B) 2.80 b ² C) 1.06 b ² D) .23 b ² For Egg-shaped sewer running full in Area of invert portion is given as: A) 1.57 b ² B) 2.80 b ² C) 1.6 b ² D) .23 b ² | B C A B |

| | The shape of the sewer depends upon: | |
|------|--|---|
| 305. | A) Hydraulic consideration B) Construction condition | D |
| | C) Foundation condition D) all of these | |
| | The lower portion of sewers is generally curved to: | |
| 306. | A) Concentrate low flows B) Maintain self-cleansing velocity | D |
| | C) Get more flow D) Both A & B | |
| | In horse shoe sewers the invert portion may be: | |
| 307. | A) Rectangular B) Circular | D |
| 307. | C) Parabolic D) both B & C | D |
| | For sewers having width more than 2m more suitable section is | |
| 200 | | C |
| 308. | A) Circular B) Elliptical | C |
| | C) Semi-Elliptical D) Parabolic | |
| • | Which of the following is not a shape of surface drains? | |
| 309. | A) Circular B) Rectangular | A |
| | C) Semi-Circular D) V-Section | |
| | Which of the following is a shape of surface drains? | |
| 310. | A) Circular B) V-Section | В |
| | C) Parabolic D) none of these | |
| | Surface drains classified on the basis of: | |
| 311. | A) Their cross section B) Discharge carrying Capacity | D |
| | C) type of soil D) both A & B | |
| | Punjab has classified surface drains into | |
| 312. | A) 6 types B) 8 types | D |
| | C) 10 types D) 12 types | |
| | Usually how many shapes of surface drains are available: | |
| 313. | A) 2 B) 3 | D |
| 313. | C) 4 D) 5 | D |
| | Surface drains should: | |
| 314. | A) Have sufficient carrying capacity B) Have reasonable free board | D |
| 314. | C) Have smooth Inner surface D) All of these | D |
| | The sewer section that have more capacity as compared to circular section of same | |
| | 1 , 1 | |
| 315. | height: | C |
| | A) Horse shoe B) Rectangular C) Revelodice and alternation of the state of the st | |
| | C) Parabolic or delta D) Semi-elliptic | |
| 21- | Rectangular section of sewers is used where: | ъ |
| 316. | A) Less flow rate B) Head room is limited | В |
| | C) Head room is unlimited D) all of these | |
| | Main sewer is a sewer that receive sewage from | _ |
| 317. | a)Sub-branches b)Main branches c)Lateral branches d)Tributary branches | D |
| | c)Lateral branches d)Tributary branches | |
| | Sewers which sewage from houses are | |
| 318. | a)Lateral b)Domestic | A |
| | c)Main d)Combined | |
| | Intercepting sewer is a sewer laid to a general sewer system | |
| 319. | a)Perpendicular b)Transversely | В |
| | c)Horizontally d)Inclined | |
| | sewers runs full under force of gravity | |
| 320. | a)House b)Intercepting sewer | C |
| | c)Depressed sewer d)General sewer | |
| | sewers are used to carry the flow in excess of capacity of existence sewer | |
| 321. | a) Outfall sewer b) Depressed sewer | D |
| J21. | a) Outfall sewer c) Infall sewer d) Relief sewer | D |
| | For best efficiency the value of "N" is as possible | |
| 222 | | D |
| 322. | a)High b)Low | В |
| | c)<2 d)<2 | |

| | At velocity at sewag | e invert erosion takes place | |
|---------|--|--|----------|
| 323. | a)High | b)Low | A |
| 323. | c)Medium | | |
| | Asbestos pipes are mixture of _ | | |
| 324. | a)Cement, Concrete, Silica | | В |
| 327. | c)Silica ,Sand, Cement | | |
| | Asbestos pipes range in diamet | | |
| 325. | a)75mm-150mm | | D |
| 323. | | b)75-150mm | l D |
| | c)75-150ft | d)75mm-500mm | |
| 226 | Length of asbestos pipes range | | ъ |
| 326. | a)3-4ft | b)3-4m | В |
| | c)5-6ft | | |
| | are susceptible to | | |
| 327. | a)Plastic pipes | b)RCC pipes | С |
| | c)Asbestos pipes | d)Cement pipes | |
| | Due to some disadvantages of a | asbestos they are used only as | |
| 328. | a)Horizontal | b)Vertical | В |
| | c)Transversely | d)None of these | |
| | Range of plain pipe | | |
| 329. | a)80-400mm | b)80-450ft | A |
| | | d)80-450cm | |
| | The thickness of reinforced cer | nent concrete ranges | |
| 330. | a)25-35mm | b)25-30cm | A |
| 330. | | d)25-30mm | 11 |
| | Ring reinforced cement nine is | suitable up to diameter of | |
| 331. | a)700mm | b)800mm | В |
| 331. | 1,000 | 1) 1000 | Ь |
| | | , | + |
| 222 | Ring forced cement pipes can b | <u> •</u> | ъ |
| 332. | a)External | b)Internal | В |
| | c)Both a and b | | |
| 222 | | pes can bear both external and internal pressure | |
| 333. | a)Ring | · · · · · | A |
| | c)Circular | d)Rectangle | |
| | For adequate strength rich qual | | |
| 334. | a)Cement gravel | -, | В |
| | c)Concrete reinforced cement | d)Cement | |
| | Water cement ration usually va | ries between | |
| 335. | a)0.5-0.6 | b)0.5-0.7 | В |
| <u></u> | c)0.6-0.7 | d)0.7-0.8 | <u> </u> |
| | RCC in size varies from | | |
| 336. | a)1000-2500mm | b)1000-2600mm | D |
| | | d)100-2400mm | |
| | Length of RCC varies from | | |
| 337. | a)900-2400mm | b)900-2400m | A |
| | c)900-1000ft | d)900-1000mm | |
| | Cause of crown corrosion | , | |
| 338. | a) H ₂ S gas | b) CO ₂ gas | A |
| 330. | c) CO | $d)O_2$ | 11 |
| | Smell of H ₂ S is | 4,02 | |
| 339. | | h)Rurning | A |
| 339. | a)Rotten eggs | b)Burning | A |
| | c)Rotten apples | d)Pungent | |
| 240 | H ₂ SO ₄ acts with concrete to for | | |
| 340. | a)CaCO ₃ | b)CaCl ₂ | C |
| | c)CaSO ₄ | d)CaAl ₂ | |
| 241 | To avoid crown corrosion usua | | C |
| 341. | a)Vitrified cement | b)Vitrified iron | |
| | | | 1 |

| In the process of vitrifying clay, Pressure should b about | | c)Vitrified clay d)Vitrified concrete | |
|--|--------------------|---|----------|
| 340 30 95N/mm² 010 90N/mm² 010 85N/mm² 010 | | In the process of vitrifying clay, Pressure should be about | |
| Commons Comm | 342 | | D |
| Temperature for vitrified clay ranges B a 315-0.600C b 150-750C d 150-800C | 312. | c)0.88N/mm ² d)0.85N/mm ² | |
| 343 | | Temperature for vitrified clay ranges | |
| Usually in the process of vitrifying clay is added to kiln a)NaCl b)Na ₂ CO ₃ CaCl ₂ | 343. | | В |
| A a)NaCl | | c)150-750C d)150-800C | |
| CacCO3 OCaCO2 Vitrifying pipes can be suitable up to depth of | | Usually in the process of vitrifying clay is added to kiln | |
| Vitrifying pipes can be suitable up to depth of | 344. | , | A |
| 345. a)4-8m b)4.5-5m B c)4-8cm c)4-8cm d)4.5-5cm | | | |
| Oj4-8cm | | | |
| | 345. | | В |
| 346. a) Concrete pipes b) RCC pipes c) Asbestos pipes d) Vitrified clay pipes are ranging from in length | | | |
| C)Asbestos pipes d)Vitrified clay pipes | 246 | | D |
| Vitrified clay pipes are ranging from in length | 346. | a)Concrete pipes b)RCC pipes | D |
| A A A A A A A A A A | | | |
| Diameter of vitrified clay pipes are | 217 | | A |
| Diameter of vitirified clay pipes are | 347. | a)0.5-0.9III | A |
| 348. a)0.1-03m b)0.2-0.4m Color.1-0.3cm d)0.2-0.4cm | | | |
| Cast iron sewers in diameter ranging from | 3/18 | | Δ |
| Cast iron sewers in diameter ranging from | J -1 0. | c)0.1-0.3m b)0.2-0.4m d)0.2-0.4m | A |
| 349. a)150-800mm b)150-750mm c)160-800mm d)160-750mm B c)160-750mm B c)160-7 | | Cast iron sewers in diameter ranging from | |
| Collar joints are used for pipes. | 349 | | B |
| Length of cast iron sewers are usually ranging | 317. | | |
| 350. a)3-3.5ft c)4-4.5ft b)3-3.5m d)4-4.5m B c)4-4.5ft d)4-4.5m Pipes are suitable for wet ground conditions. 351. a) Cast iron b)RCC c) Plastic d)Asbestos D concrete Sewers d) Steel Sewers D concrete Sewers d) Steel Sewers d) Steel Sewers D concrete Sewers d) Steel Sewers d) | | Length of cast iron sewers are usually ranging | |
| C)4-4.5ft d)4-4.5m | 350. | | В |
| Pipes are suitable for wet ground conditions. a) Cast iron b)RCC c) Plastic d)Asbestos are perfectly impervious. 352. a)Cement Sewers b) Cast Iron Sewers c)Concrete Sewers d) Steel Sewers permit cold negotiation of bends. 353. a)Cement Sewers b) Cast Iron Sewers c)Plastic Sewers d) Steel Sewers Bell and Spigot joint are quite common in 354. a)RCC b) Plastic c)Reinforced Concrete d) Steel Usually cement mortar is of proportion in Bell and Spigot Joint. 355. a)1:1 b)1:2 c)1:3 d)1:4 Usually mortar caulked joint is finished at about 356. a)30° b)45° B c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes C C | | | |
| 351. a) Cast iron | | | |
| are perfectly impervious. a) Cement Sewers b) Cast Iron Sewers c) Concrete Sewers d) Steel Sewers permit cold negotiation of bends. a) Cement Sewers b) Cast Iron Sewers c) Plastic Sewers d) Steel Sewers Bell and Spigot joint are quite common in a) RCC b) Plastic c) Reinforced Concrete d) Steel Usually cement mortar is of proportion in Bell and Spigot Joint. 355. a) 1:1 b) 1:2 A c) 1:3 d) 1:4 Usually mortar caulked joint is finished at about 356. a) 30° b) 45° B c) 60° d) 90° Collar joints are used for pipes. 357. a) Steel b) Concrete B c) Iron d) Asbestos Ring tie coupling are also known as a) Flexible joint b) Circular joint c) Open Joint d) Simplex joint Simplex joint are used for | 351. | | A |
| 352. a)Cement Sewers b) Cast Iron Sewers c)Concrete Sewers d) Steel Sewers | | c) Plastic d)Asbestos | |
| permit cold negotiation of bends. a)Cement Sewers b) Cast Iron Sewers c)Plastic Sewers d) Steel Sewers Bell and Spigot joint are quite common in 354. a)RCC b) Plastic c)Reinforced Concrete d) Steel Usually cement mortar is of proportion in Bell and Spigot Joint. 355. a)1:1 b)1:2 A c)1:3 d)1:4 Usually mortar caulked joint is finished at about 356. a)30° b)45° B c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint Simplex joint are used for | | | |
| permit cold negotiation of bends. a)Cement Sewers b) Cast Iron Sewers c)Plastic Sewers d) Steel Sewers Bell and Spigot joint are quite common in 354. a)RCC b) Plastic c)Reinforced Concrete d) Steel Usually cement mortar is of proportion in Bell and Spigot Joint. 355. a)1:1 b)1:2 A c)1:3 d)1:4 Usually mortar caulked joint is finished at about 356. a)30° b)45° B c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint Simplex joint are used for | 352. | a)Cement Sewers b) Cast Iron Sewers | D |
| 353. a)Cement Sewers b) Cast Iron Sewers c)Plastic Sewers d) Steel Sewers Bell and Spigot joint are quite common in | | c)Concrete Sewers d) Steel Sewers | |
| c)Plastic Sewers Bell and Spigot joint are quite common in a)RCC b) Plastic c c)Reinforced Concrete d) Steel Usually cement mortar is of proportion in Bell and Spigot Joint. 355. a)1:1 b)1:2 A c)1:3 d)1:4 Usually mortar caulked joint is finished at about 356. a)30° b)45° B c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint Simplex joint are used for | | | |
| Bell and Spigot joint are quite common in | 353. | a)Cement Sewers b) Cast Iron Sewers | C |
| 354. a) RCC c) Reinforced Concrete b) Plastic c) Reinforced Concrete C Usually cement mortar is of proportion in Bell and Spigot Joint. A 355. a)1:1 b)1:2 c)1:3 d)1:4 A Usually mortar caulked joint is finished at about B 356. a)30° b)45° c)60° d)90° B Collar joints are used for pipes. B 357. a)Steel b)Concrete c)Iron d)Asbestos B Ring tie coupling are also known as B 358. a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint D Simplex joint are used for Simplex joint are used for 359. a)RCC pipes b)Plastic pipes C | | c)Plastic Sewers d) Steel Sewers | |
| c)Reinforced Concrete d) Steel Usually cement mortar is of proportion in Bell and Spigot Joint. a)1:1 b)1:2 A c)1:3 d)1:4 Usually mortar caulked joint is finished at about 356. a)30° b)45° B c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete B c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint D c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes | | 100 | ~ |
| Usually cement mortar is of proportion in Bell and Spigot Joint. a)1:1 b)1:2 A c)1:3 d)1:4 Usually mortar caulked joint is finished at about 356. a)30° b)45° B c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes C | 354. | | C |
| 355. a)1:1 b)1:2 A | | | |
| c)1:3 d)1:4 Usually mortar caulked joint is finished at about 356. a)30° b)45° B c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes | 255 | | |
| Usually mortar caulked joint is finished at about a)30° b)45° B c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes | 333. | | A |
| 356. a)30° b)45° B c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete B c)Iron d)Asbestos Ring tie coupling are also known as a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint Simplex joint are used for Simplex joint are used for a)RCC pipes b)Plastic pipes | | | |
| c)60° d)90° Collar joints are used for pipes. 357. a)Steel b)Concrete B c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint D c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes | 356 | | D |
| Collar joints are used for pipes. a)Steel b)Concrete B c)Iron d)Asbestos Ring tie coupling are also known as a)Flexible joint b)Circular joint D c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes C B C C C C C C C C C C C C C C C C | 350. | c)60° d)90° | В |
| 357. a)Steel b)Concrete B c)Iron d)Asbestos Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes C | | Collar joints are used for nines | |
| c)Iron d)Asbestos Ring tie coupling are also known as a)Flexible joint b)Circular joint D c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes C | 357 | | В |
| Ring tie coupling are also known as 358. a)Flexible joint b)Circular joint D c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes C | | | |
| a)Flexible joint b)Circular joint D c)Open Joint d) Simplex joint Simplex joint are used for 359. a)RCC pipes b)Plastic pipes C | | | |
| c)Open Joint d) Simplex joint Simplex joint are used for a)RCC pipes b)Plastic pipes C | 358. | | D |
| Simplex joint are used for a)RCC pipes b)Plastic pipes C | | c)Open Joint d) Simplex joint | |
| 359. a)RCC pipes b)Plastic pipes C | | Simplex joint are used for | |
| | 359. | | C |
| | | | |

| | Joints can be made flexible by using | |
|------|---|---|
| 360. | a)Vitrified clay h)Rituminous compound | В |
| 300. | a)Vitrified clay b)Bituminous compound c)Carbon compound d)Non- bituminous compound | D |
| | Mechanical joints are used for sewers. | |
| 361. | a) Metallic b)Non-metallic | A |
| 301. | c)Rigid d)Non-rigid | Α |
| | | |
| 262 | Pipes are 100% leak proof. | C |
| 362. | a) Steel b)RCC c)Cast iron d)Plastic | С |
| | sewers are used at those locations where high external or | |
| | | |
| 363. | internal pressures are encountered. | C |
| | a)RCC b)Plastic c)Steel d)Cast iron | |
| | | |
| 364. | Intercepting sewer is usually flowing to a natural drainage channel. | В |
| 304. | a)Perpendicular b)Parallel | В |
| | c)at 30° d)45° | |
| 265 | Equipment consisting of miscellaneous articles needed for a particular operation | D |
| 365. | A) accessory (b) appurtenances | В |
| | (c) both (d) none | |
| 266 | A device which admit storm water to enter in a sewer is called | D |
| 366. | A) outlet (b) inlet | В |
| | (c) storm regulator (d) all | |
| 267 | Curb inlet also called | |
| 367. | A) vertical inlet (b) horizontal inlet | A |
| | (c) combination inlet (d) all | |
| 2.60 | Gutter inlet also called | ъ |
| 368. | A) vertical inlet (b) horizontal inlet | В |
| | (c) combination inlet (d) all | |
| 260 | Grate placed directly in front of vertical inlet isinlet | |
| 369. | A) depressed (b) un depressed | A |
| | (c) under depress (d) all | |
| | Grate placed at the end or overlapping position of vertical inlet is | |
| 370. | calledinlet | В |
| | A) depressed (b) un depressed | |
| | (c) under depress (d) all | |
| | Special type of inlet in which a basin is provided which allows settles out of debris | |
| 371. | etc | A |
| | A) catch basin (b) clean out | |
| | (c) clean back (d) hole | |
| | Inclined pipe whose one end is connected to underground sewer other end brought | |
| 372. | up to ground (b) clean out | В |
| | A) catch basin (b) clean out | |
| | (c) clean back (d) hole | |
| 272 | Manhole is constructed with | D |
| 373. | A) Masonry (b) R.C.C (d) both a % h | D |
| | (c) clay (d) both a & b | |
| 274 | Manhole is constructed for the purpose of | D |
| 374. | A) inspection (b) cleaning (c) removed of obstructions (d) all | D |
| | (c) removal of obstructions (d) all | |
| 275 | Manhole is provided when | |
| 375. | A) changing direction (b) changing alignment | C |
| | (c) both a & b (d) max flow | |
| 276 | How many types of manholes | |
| 376. | (a) 1 (b) 2 (d) 4 | С |
| | (c) 3 (d) 4 | |

| 077 | What is the depth of Shallow manhole in meter | |
|----------------------|--|---------|
| 377. | A) 0.75-0.9 (b) 0.7-0.8 | A |
| 311. | (c) 0.5-0.7 (d 0.2-0.5 | 71 |
| | Shallow manhole are constructed atsewer | |
| 378. | A) trunk (b) branch | В |
| 376. | (c) storm (d) lateral | ь |
| | | |
| 270 | Normal manhole of depth in meters | |
| 379. | (b) 2 | A |
| | (c) 3 (d) 2.5 | |
| 200 | What is the area of normal manhole of rectangular shape in m2 | |
| 380. | A) 1-2 (b) 1-1.5 | C |
| | (c) 0.8-1.2 (d) 0.2-0.9 | |
| | Those manholes which are deeper than 1.5m are called | |
| 381. | A) deep (b)shallow | A |
| | (c) normal (d) vertical | |
| | Manholes having large diameter at bottom and smaller diameter at top | |
| 382. | A) deep (b) shallow | A |
| | (c) normal (d) vertical | |
| | What thing provide to go up & down in the manhole | |
| 383. | A) lift (b) steps | В |
| | (c) elevator (d) all | |
| | How many components of deep manhole | |
| 384. | A) 5 (b) 6 | В |
| 2011 | (c) 7 (d) 8 | |
| | The upper portion of deep manhole is called | |
| 385. | A) top (b) front | C |
| 303. | | |
| | (c) access shaft (d) working chamber What is the diameter of access shaft in meters | |
| 200 | | |
| 386. | (a) 0.6-0.75 (b) 0.8-1.5 (c) 0.1.00 | A |
| | (c) 0.3-2 (d) 0.1-0.9 | |
| • • • | The lower portion of deep manhole is called | _ |
| 387. | A) top (b) front | D |
| | (c) access shaft (d) working chamber | |
| | What is the diameter of working chamber in meters | |
| 388. | A) 1 (b) 2 | D |
| | (c) 0.5 (d) 1.2 | |
| | The bottom portion of deep manhole is called | |
| 389. | A) top (b) invert | |
| 389. | | В |
| | 1 ' · · · · · · · · · · · · · · · · · · | В |
| | (c) access shaft (d) working chamber | В |
| 390 | (c) access shaft (d) working chamber The height of working chamber should not less than | |
| 390. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m | A A |
| 390. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m | |
| | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole | A |
| 390. 391. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape | |
| | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape | A |
| 391. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with | A C |
| | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with A) bricks (b) stone | A |
| 391. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with A) bricks (b) stone (c) R.C.C (d) all | A C |
| 391. 392. | (c) access shaft The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with A) bricks (b) stone (c) R.C.C (d) all The minimum thickness of side wall in cm | A C D |
| 391. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with A) bricks (b) stone (c) R.C.C (d) all The minimum thickness of side wall in cm A) 21 (b) 22 | A C |
| 391. 392. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with A) bricks (b) stone (c) R.C.C (d) all The minimum thickness of side wall in cm A) 21 (b) 22 (c) 22.5 (d) 23 | A C D |
| 391. 392. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with A) bricks (b) stone (c) R.C.C (d) all The minimum thickness of side wall in cm A) 21 (b) 22 | A C D |
| 391. 392. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with A) bricks (b) stone (c) R.C.C (d) all The minimum thickness of side wall in cm A) 21 (b) 22 (c) 22.5 (d) 23 | A C D |
| 391. 392. 393. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with A) bricks (b) stone (c) R.C.C (d) all The minimum thickness of side wall in cm A) 21 (b) 22 (c) 22.5 (d) 23 We can find out thickness by | A C D C |
| 391. 392. 393. | (c) access shaft (d) working chamber The height of working chamber should not less than A) 1.8m (b) 2m (c) 3m (d) 4m Bottom portion shape of deep manhole a) L shape (b) X shape (c) U-shape (d) V-shape Sidewall of manhole are constructed with A) bricks (b) stone (c) R.C.C (d) all The minimum thickness of side wall in cm A) 21 (b) 22 (c) 22.5 (d) 23 We can find out thickness by A) t=9+4d (b) t=10+4d | A C D C |

| | (c) 1:4 (d) 1:1 | |
|------------------|--|---|
| | Distance between the steps in manhole in cm | |
| 396. | A) 25 (b) 30 | В |
| | (c) 35 (d) 40 | |
| | Top cover manhole depth range in cm | |
| 397. | A) 30-40 (b) 20-30 | С |
| | (c) 20-25 (d) 10-20 | |
| | Connection between high level branch & low level manhole provided by | |
| 398. | A) drop manhole (b) ladder | A |
| | (c) curve (d) supplement | |
| | Drop manhole is provided by | |
| 399. | A) vertical pipe (b) ramp | C |
| | (c) both a& b (d) slide | |
| | The purpose of drop manhole is reducing the possibilities of | |
| 400. | A) erosion (b) corrosion | D |
| | (c) sedimentation (d) sewage thrown on persons | |
| | The hole for inserting the lamp is known as | |
| 401. | A) lamp hole (b) illuminating hole | A |
| | (c) furnished hole (d) drop hole | |
| | Purpose of lamp hole | |
| 402. | A) inspection (b) flushing | D |
| | (c) ventilation (d) all | |
| | An arrangement which hold the water and then throws into sewer is called | |
| 403. | A) flushing tank (b) water tank | A |
| | (c) water hole (d) none | |
| | Types of flushing tank | |
| 404. | A) 1 (b) 2 | В |
| | (c) 3 (d) 4 | |
| | Hand operated flushing tank is operated by placing its one end in | |
| 405. | A) rives (b) stream | С |
| | (c) sewer (d) lake | |
| | Automatic flushing tank is operated due to | |
| 406. | A) pressure (b) force | A |
| | (c)velocity (d) weight | |
| | Grease and oils removed from the water due to | |
| 407. | A) obstruction (b) explosion | D |
| | (c) having sticky property (d) all | |
| 400 | Oil and grease trap have the chambers | ъ |
| 408. | A) 1 (b) 2 (d) 4 | В |
| | (c) 3 (d) 4 | |
| 400 | When we dip the line below HGL line is called | |
| 409. | a) inverted siphon (b) siphon | A |
| | (c) trap (d) underground sewer In inverted siphon HGL isflow line | |
| 410 | | |
| 410. | A) above (b) below (d) none | A |
| | (c) overlap (d) none In true siphon HGL isflow line | |
| 411. | A) above (b) below | В |
| 411. | (c) overlap (d) none | D |
| | Inverted siphon is also calledsewer | |
| 412. | A) depressed (b) un depressed | A |
| +12. | (c) under depress (d) none | A |
| | Manhole have large diameter of portion | |
| 413. | A) top (b) center | D |
| 1 13. | (c) bottom (d) lower | |
| | (u) lower | |

| | Diameter of man hole decreased by | |
|------|---|---|
| 414. | A) offset (b) onset | Α |
| | (c) by placing stone (d) all | |
| | Phosphorous can be remove by | |
| | (a) Ozonation | |
| 415. | (b) Ion exchange | _ |
| | (c) Electrodialysis | D |
| | (d) Carbon adsorption | |
| | Heavy metals can't remove by | |
| | (a)land treatment system | |
| 416. | (b)chemical precipitation | С |
| 710. | (c)ozonation | |
| | (d)ion exchange | |
| | Dissolved inorganic solids can't remove by | |
| | (a)ion exchange | |
| 417. | (b)reverse osmosis | C |
| 417. | (c)tertiary ozonation | C |
| | | |
| | (d)Electrodialysis Pathogons can remove by | |
| | Pathogens can remove by | |
| 410 | (a)land treatment systems | |
| 418. | (b)carbon adsorption | A |
| | (c)ion exchange | |
| | (d)reverse osmosis | |
| | Thermal reduction can be done by | |
| 410 | (a)pyrolysis | |
| 419. | (b)wet air oxidation | С |
| | (c)both a & b | |
| | (d)none | |
| | Sludge stabilization can't be done by | |
| | (a)chlorine oxidation | _ |
| 420. | (b)lagoons | В |
| | (c)both a & b | |
| | (d)none | |
| | Dewatering can be done by | |
| | a)Pressure filter | |
| 421. | b)Lagoons | С |
| | c)Both a & b | |
| | d)None | |
| | Sludge thickening can be done by | |
| | (a)centrifugation | |
| 422. | (b)lagoons | A |
| | (c)pyrolysis | |
| | (d)all of these | |
| | Ultimate disposal can't be done by | |
| | (a)land application | |
| 423. | (b)drying bed | Α |
| | (c)prolysis | |
| | (d)all of these | |
| | Adsorption is | |
| | (a)removal of pathogens | |
| 424. | (b)removal of heavy metals | C |
| | (c)removal of organics | |
| | (d)removal of chemicals | |
| | Which process is used in the tertiary treatment | |
| 425. | (a)pre-liminary process | D |
| | (b)chemical clarification | |
| | | |

| | (c)disinfection process | |
|------|--|---|
| | (d)both b & c | |
| | Removal of organics occur in the process | |
| 100 | (a)chemical precipitation | |
| 426. | (b)gas transfer | C |
| | (c)adsorption | |
| | (d)dechlorination | |
| | Advanced wastewater treatment method is | |
| 427. | (a)pre-liminary | D |
| 427. | (b)primary (c)secondary | D |
| | (d)tertiary | |
| | large objects are removed by | |
| | (a)sedimentation | |
| 428. | (b)chlorination | D |
| .20. | (c)co-agulation | |
| | (d)screening | |
| | the decomposition of organic matter in absence of molecular oxygen is known as | |
| | (a)anaerobic decomposition | |
| 429. | (b)aerobic decomposition | A |
| | (c)both | |
| | (d)none | |
| | amount of oxygen required by microbes to decompose organic matter in the | |
| | wastewater is called | |
| 430. | (a)BOD | A |
| 430. | (b)COD | A |
| | (c)DO | |
| | (d)all of these | |
| | skimming tanks used for the removal of | |
| | (a)oil and grease | |
| 431. | (b)sludge | A |
| | (c)large objects | |
| | (d)rocks | |
| | combined process consist of both | |
| 432. | (a)BOD & COD (b) surface and suspended growth processes | В |
| 432. | (b)surface and suspended growth processes (c)pre-liminary and primary | ь |
| | (d)none of above | |
| | BOD is measured in units | |
| | (a)tones | |
| 433. | (b)km | D |
| | (c)pounds/in ² | |
| | (d)mg/l | |
| | BOD process complete in | |
| | (a)1 month | |
| 434. | (b)1 year | С |
| | (c)5 days | |
| | (d)15 days | |
| | Method of treatment in which physical forces predominate known as | |
| | (a)double operation | |
| 435. | (b)unit operation | В |
| | (c)half operation | |
| | (d)none | |
| | Effluent from secondary treatment plant contain | |
| 436. | (a)10% to 15% | C |
| | (b)5% to 15% | |

| | (c)5% to 10% (d)none | |
|------|---|---|
| 437. | Flocculation is practiced on strength municipal wastes to provide increased primary removal. A) Low B) High C) Average D) Medium | В |
| 438. | First treatment provided to the waste materials is A) Primary B) Preliminary C) Secondary D) Tertiary | В |
| 439. | of raw wastewater is used to control odour. A) Flocculation B) Aeration C) Chlorination D) Corrosion | С |
| 440. | Chlorination is used to improve characteristics of the waste. A) Binding B) Submerging C) Floating D) Settling | D |
| 441. | is the first unit operation in wastewater treatment plants. A) Racks B) Bars C) Screens D) Aeration | С |
| 442. | Screen is a device that has openings generally of size. A) Uniform B) Small C) Large D) Medium | A |
| 443. | Parallel bars, rods, gratings, wire mesh or perforated plates are used as A) Racks B) Bars C) Screens D) None | С |
| 444. | Bar rack with clear openings greater than precede to mechanical grit removal A) 30mm B) 50 mm C) 20mm D) 40mm | D |
| 445. | Bars run vertically or at a slope of A) 30° to 80° B) 30° to 50° C) 80° to 120° D) 0° to 90° | A |
| 446. | The cleaning devices are racks which sweep the entire screen. A) Annually B) Daily C) Periodically D) Weekly | С |
| 447. | Screens serve as protective devices. A) Coarse B) Fine C) Duplicate D) Broad | A |
| 448. | Hand cleaned racks are set usually at an angle ofto the horizontal, to increase effective cleaning. A) 90° B)30° C) 45° D) 60° | С |
| 449. | Medium bar screens have clear openings of mm. A) 20 to 50 B) 30 to 120 C) 20to 90 D) 30 to 90 | A |
| 450. | Bars are usually mm on upstream side and taper slightly to the downstream side. A) 80 B) 10 C) 70 D) 60 | В |
| 451. | The design velocity through the screens should be such as to permit removal of certain material. A) 100% B) 0% C) 40% D) 20% | A |
| 452. | Velocities of m/s through the open areas of bars for peak flows have been found satisfactory. A) 0.4 to .0.8 B) 0.6 to 1.2 C) 0.8 to 2.0 D) 0.4 to 0.6 | В |
| 453. | Maximum loss with clogged hand cleaned screen should not exceed A) 10m B) 0.9m C) 0.3m D) 0.1m | C |
| 454. | Fine screens are cleaned devices using perforated plates. A) Manually B) Mechanically C) Chemically D) Potentially | В |
| 455. | Fine screens are woven wire cloth or very closely spaced bars, openings less than | A |
| 456. | A) 20mm B) 30mm C) 100mm D) 120mm Bras or bronze plates are used for construction of screens. A) Coarse B) Brush C) Fine D) None | С |
| 457. | Fine screens have net submerged area of not less than $0.05m^2$ for every A) $1000m^3$ B) $10m^3$ C) $20m^3$ $40m^3$ | A |

| The use of screening is desirable for medium size plants. A) Aquifers B) Grinders C) Binders D) Multipliers 459 are placed in sludge digestion tanks. A) Screenings B) Wastewater C) Sludge D) None Communicating devices may be preceded by to prolong the life of the equipment. A) Screenings B) Grit chambers C) Racks D) Bars | B A |
|---|--------|
| 459. A) Screenings B) Wastewater C) Sludge D) None Communicating devices may be preceded by to prolong the life of the equipment. | A |
| 460. equipment. | |
| A) Scientify D) On chambers C) Racks D) Dais | В |
| A communicator consists of a vertical revolving with 6mm to 10mm slots. A) Plot-screen B) Push-block C) Drum-screen D) None | С |
| The across communicators depends upon screen details and flow of norm values of 50 to 100mm. A) Head loss B) Friction loss C) Draw down D) Radial flow | al A |
| Stationary screen type communicator consists of a stationary screen and a cutting disk. A) Circular B) Block C) Semi-circular D) Cylinder | d C |
| The intercepts the large particles whereas small particles can pass through A) Grit chamber B) Clarifier C) Digester D) None | 1. A |
| A barminutor is a communicating unit which is used for flows exceeding A) 1mLd B) 10mLd C) 15mLd D) 50mLd | D |
| 466. Leavy mineral material found in raw sewage and may contain other objects. A) Silt B) Grit C) Waste D) Rubbish | В |
| Grit has a specific gravity ranging from A) 2.4 to 2.65 B) 2.3 to 2.98 C) 2.3 to 3.65 D) None | A |
| Horizontal flow grit chambers are designed to maintain a velocity as close to as practical. A) 10m/s B) 40m/s C) 0.3m/s D) 0.9m/s | С |
| In order to maintain constant velocity, a control section is placed at the of the channel. A) End B) Middle C) Below D) Centre | A |
| Grit chambers are cleaned A) Mechanically B) Manually C) Piping D) A & B | D |
| All sewage plants where flows exceed, mechanized grit removal units are preferred. A) 1mLd B) 10mLd C) 2mLd D) 5mLd | В |
| Settling velocity of grit chambers is given by A) Stroke's law B) Charles Law C) Boyles law D) Avogadro's law | A |
| Detention period for grit chambers may vary from seconds. A) 20 to 15 B) 15 to 18 C) 10 to 18 D) 45 to 90 | D |
| Proportional Flow Weir, Sutro Weir, Parabolic Grit Flow, and Parshall flume are all the flow control devices for A) Proportional flow B) Grit Chamber C)Flow section D) none of these | В |
| Clean grit is characterized by the lack of A) Odour B) Taste C) Color D) Oxygen demand | A |
| Tanks are installed to remove floating substances like grease, oils, fats, waxes, etc. A) Sedimentation B) Skimming C) Flocculation D) Distillation | В |
| The risingcongeal the greasy and oily material and push it to the side of compartment. A) Air Bubbles B) Chemicals C) Flocculants D) None | A |
| 478. Trickling Filter also known as | D |

| 479. | Trickling Filter is method. a)Physical b) Chemical c)Biological d) Physiochemical | С |
|------|--|--------|
| 480. | In Trickling Filter the color of bio film formed by aerobic bacteria a) Blackish b) greenish c)yellowish d) all of these | D |
| 481. | In Trickling Filter bio film depend upon a) Oxygen b)carbon c) nitrogen d) sulfur | A |
| 482. | Trickling filter is an growth type of process in which microorganisms are used for removing organic matter from wastewater. | |
| 483. | a) Separate b) attached c)vital d) powerful Which material not used in attached growth process a) Steel b) rock c)gravel d)redwood | B A |
| 484. | The wastewater in trickling filter is providedcontaining non-submerged packing material. a) Trough bottom b) both from left and right inlet c) over the top area of a vessel d) none of these | С |
| 485. | The Trickling Filter is always preceded by | В |
| 486. | The depth of microbial film is | A |
| 487. | The process in which microorganism loss their ability to cling to the medium is called a) Sloughing b) falling of microorganism c) tumbling of microorganism d) none of these | A |
| 488. | A organic loading rate results in a rapid growth of biomass. a) Slow b) fast c) high d) medium | С |
| 489. | the hydraulic loading rate increases sloughing and helps to keep the bed open. a) By slowing b) By increasing c)By stopping d) none of these | В |
| 490. | Hydraulic loading of Low Rate Filter m^3/m^2 .d a) $1-4$ b) $1-5$ c) $1-3$ d) $1-2$ | A |
| 491. | Organic loading of Low Rate Filter kg BOD / m ³ .d a) 0.08 - 0.32 c)0.02-0.5 c)0.1-0.3 d) 0.5-0.9 | A |
| 492. | Depth of Low Rate Filter | В |
| 493. | Hydraulic loading of High Rate Filter m^3/m^2 .d a) $1-4$ b) $1-25$ c) $10-40$ d) $10-15$ | С |
| 494. | Organic loading of High Rate Filter kg BOD / m ³ .d a) 0.08 - 0.32 c)0.02-0.5 c)0.1-0.3 d) 0.32-1 | D |
| 495. | Depth of High Rate Filter | С |
| 496. | Recirculation ratio of Low Rate Filter | A |
| 497. | Recirculation ratio of High Rate Filter | С |
| 498. | The capacity of Trickling Filter a) Less than 5mLD b) less than 2mLD c) greater than 5mLD d) 10mLD | A |
| 499. | The most commonly used filter media is broken slag or gravel of sizemm | |

| | a)25-30 b)25-75 c) 30-40 d) 10-15 | В |
|------|---|---|
| 500. | E ₂ = 100 1+0.44(F _{1.BOD} /V ₁ .Rf ₁) ^{1/2} this equation is called | В |
| 501. | Sloughing of Low Rate Filter a) Intermittent b) Continuous c) fast d)none of these | A |
| 502. | Sloughing of High Rate Filter a) Intermittent b) Continuous c) fast d)none of these | A |
| 503. | Dosing intervals Low Rate Filter a) <5min b) >5min c) 15min d) 20min | A |
| 504. | Dosing intervals High Rate Filter | A |
| 505. | E ₂ = 100 1+0.44(F _{1,BOD} /V ₁ .Rf ₁) ^{1/2} In this equation "F _{1,BOD} " Stand for a) % efficiency in BOD removal of single stage or first stage of two-stage filter b) BOD loading on First-stage filter in kg/d c) volume of first stage filter in m ³ d)none of these | В |
| 506. | All the components such as atmosphere, hydrosphere, cryosphere, lithosphere, biosphere collectively known as: A. Atmospheric system B. Climate system C. Climate change D. Meteorological system | В |
| 507. | Average residence time for the groundwater deep is: A. 50 to 100 years B. 10000 years C. 20 to 100 years D. 2 to 6 months | В |
| 508. | According to Geographical location of Pakistan lie in which zone: A. Temperate immediately below the tropic of cancer B. Polar immediately below the tropic of Capricorn C. Temperate immediately above the tropic of cancer D. Polar immediately above the tropic of Capricorn | С |
| 509. | Which statement is true about hydrological cycle: A. It moves from the atmosphere oceans, to the oceans and the land, eventually returning to the oceans again B. It moves from the oceans, to the atmosphere and the land, eventually returning to the oceans again C. It moves from the land, to the oceans and the atmosphere, eventually returning to the oceans again D. All are correct | В |

| 510. | If average annual rainfall of Murree in north of Pakistan is 1700 mm. We are not assured of getting this amount every year. The actual rainfall varying from the mean which represents drought and flood conditions is the Example of: A. Climate change B. Weather change C. Climate variability D. All are correct | С |
|------|---|---|
| 511. | Climatic features over the large areas of the earth and the large scale atmospheric motion concerned with A. Macro climatology B. Regional climatology C. Climatology D. Meso-climatology | A |
| 512. | Which statement is correct: A. Downward motion of the easterlies is usually more irregular than that of the westerlies B. Downward motion of the westerlies is usually more irregular than that of the easterlies C. Upward motion of the westerlies is usually more irregular than that of the easterlies D. None | A |
| 513. | Following (Tropical and extra-tropical cyclones, Gravity waves, Planetary waves, Jet streams etc.) are the elements of A. Weather and climate B. Atmospheric dynamics C. Dynamics of pressure and wind D. All are correct | В |
| 514. | On a warm, sunny day, certain areas of Earth's surface absorb more heat from the sun than others; as a result, the air near Earth's surface is heated somewhat unevenly. Air molecules adjacent to these hot surfaces bounce against them, thereby gain some extra energy. The heated air expands and becomes less dense than the surrounding cooler air. The phenomena is known as: A. Transfer of heat Convection B. Transfer of heat conduction C. Heat conduction and heat Convection D. Radiant energy | A |
| 515. | Calculate the maximum radiation, If the cooler earth have on an average surface temperature is 300k and the constant is 2897 µmk: A. 10µm, (shortwave visible light) B. 9.6 µm, (longwave infrared) C. 9.6 µm, (ultraviolet waves) D. 10 ⁻⁷ µm, (longwave infrared) | В |
| 516. | When one of the Earth's poles has its maximum tilt toward the Sun during the summer is known as: A. June solstice (June 21) in the Northern Hemisphere B. December solstice (Dec. 21) in the Southern Hemisphere | A |

| | C. June solstice (June 21) and December solstice (Dec. 21) D. None | |
|------|---|---|
| 517. | The rising of hot air and the sinking of cool air sets up a convective circulation and near the surface the wind is adverting smoke from one region to another. The vertical part of the circulation and the horizontal part respectively called: A. Advection and Convection B. Advection wind and Convection wind C. Vertical air and Convective air D. Convection and advection | D |
| 518. | Which statement is true about" hydrologic residence time in different storages"? A. On average water is renewed in rivers once every 16 days. B. Water in the atmosphere is completely replaced once every 12 days C. Water is not cycled between its various storages continually. D. There is no typical residence times of water in the major storages. | A |
| 519. | What are the two main purposes of "oceans" in the climate system? A. It is a large reservoir of chemicals that can contribute to the greenhouse effect in the atmosphere and energy absorbing 90% of the solar radiation which hits the surface. B. Includes all living organisms on earth, together with the dead organic matter produced by them C. Exchanges matter and energy with the other spheres. D. None of these | A |
| 520. | Which layer of atmosphere have the lowest part is warmest and its temperature decreases with altitude. A. Stratosphere B. Mesosphere C. Troposphere D. Thermosphere | С |
| 521. | The layer which contain 20% of molecules in the atmosphere and gets warmers as you go away from the earth is A. Stratosphere B. Mesosphere C. Troposphere D. Thermosphere | A |
| 522. | (MAAT) stands for? Permafrost may occur where the MAAT are? A. Mean annual air temperatures, less than -1 or -2°C and is generally continuous where MAAT are less than -7°C. B. Medium annual air temperatures, larger than 1 or 2°C and is generally continuous where MAAT are less than 7°C. C. Mean average air temperatures, less than 1 or 2°C and is generally continuous where MAAT are less than 7°C. D. Mean annual air temperatures, less than 1 or 2°C and is generally stop where MAAT are larger than 7°C. | A |
| 523. | Choose the climatic elements between A. Solar and net radiation | A |

| | B. Vegetation surface C. Land and water surface D. None of these | |
|------|---|---|
| 524. | Choose the correct option to clear the difference between ranges of UV rays: A. UVC 0.20-0.29 μm, UVB 0.29-0.32 μm and UVA 0.32-0.40 μm B. UVC 0.32-0.35 μm, UVB 0.35-0.38 μm and UVA 0.38-0.40 μm C. UVA 0.20-0.29 μm, UVB 0.29-0.32 μm and UVC 0.32-0.40 μm D. UVC 0.20-0.29 μm, UVA 0.29-0.32 μm and UVB 0.32-0.40 μm | A |
| 525. | Which is true about Tropical cyclones A. Temperature contrast at surface, No energy from latent heat, strongest wind far from surface, Cold core B. No temperature contrast at surface, energy from latent heat, strongest wind near surface, warm core C. No energy from latent heat, weakest wind, No warm core D. Option A is correct but option B is also not wrong | В |
| 526. | Vertically propagating disturbances that are identified by large-scale variations in the pressure, temperature, winds, and composition known as A. Planetary waves B. Mechanical waves C. Electromagnetic waves D. None of these | A |
| 527. | The stream of charged particles from the sun called, distorts Earth's magnetic field into a teardrop shape known as the These particles, which spiral in along magnetic field lines, interact with atmospheric gases and produce the Choose the correct option A. The solar wind, magnetosphere, aurora B. Ionic stream, the solar wind, aurora C. Lightening, the solar wind, magnetosphere D. All are wrong | A |
| 528. | What is true about seasons in the southern Hemisphere A. Opposite timing of Northern Hemisphere B. Equal but opposite timing of Northern Hemisphere and away from sun C. Bothe of these D. Extreme winds | A |
| 529. | Choose the main controllers of daily temperature: A. Latitude, Elevation B. Ocean, Land and water distribution C. Isotherms, Annual range of temperature: D. All of these | D |
| 530. | Correct use of thermometers A. Minimum thermometer, measures lowest temperature | D |

| | B. Maximum thermometer, measures highest temperatureC. liquid-in-glass thermometer, for surface air temperatureD. All of these | |
|------|--|---|
| 531. | In precipitation and condensation processes hygroscopic nuclei are and water vapor rapidly condenses on their surfaces. Hydrophobic nuclei are and not allow condensation A. water seeking, water-repelling B. strong in bonding, weak in bonding C. different in size, same in size D. All options are correct | A |
| 532. | The Bergeron process formation of precipitation from cold clouds depends on the coexistence of A. liquid cloud B. ice crystals C. water vapor D. All of these | D |
| 533. | When the wind moves moist air over a cold surface and the moist air cools to its dew point this phenomenon helps to form A. Convective fog B. Ground fog C. Advection fog D. Clouds | С |
| 534. | These clouds are lowest in altitude with uniform layer covers much of the sky. They bring rain or snow. A. Cirrus B. Stratus C. Cumulonimbus D. Cumulus | В |
| 535. | Stratus clouds, Nimbostratus clouds, are classified as A. Medium clouds B. Low clouds C. High clouds D. Clouds with Vertical Development | В |
| 536. | Generally produced by nimbostratus clouds or cumulonimbus clouds with approximate size 0.5 to 5mm. when heavy size can be highly variable form one place to another is known as A. Rain B. Sleet C. Drizzle D. Mist | A |
| 537. | The streaks of falling precipitation that evaporate before reaching the ground are called A. Rain B. Virga C. Fog | В |

| | D. Mist | |
|------|--|---|
| 538. | What are the climatic models that are used to simulate past and present climates? A. General circulation Model B. The Community Climate System Model C. The atmospheric general circulation model D. All of these | D |
| 539. | Which instrument is used to measure the air quality A. Wind profiler B. Wind vane C. Nephelometer D. All options are correct | С |
| 540. | is a deposit of ice crystals, formed on surface objects by super cooled fog or cloud droplets. A. Rime B. Hail C. Rain D. Sleet | A |
| 541. | A warm air mass is moving towards a cold air mass. What type of front is this describing? A. Cold front B. Warm front C. Occluded front D. Stationary front | В |
| 542. | X-components of given forces are: A. F ₁ cos35°, -F ₂ sinθ B. F ₁ sin35°, F ₂ cosθ C. F ₁ cos35°, -F ₂ (4/5) D. F ₁ cos35°, -F ₂ (3/5) | С |
| 543. | The perpendicular distance between the two couple forces is: A. 125mm B. 120.71mm C. 150mm D. 21.7m | В |

| | 180 N r = 25 mm 100 mm 180 N 180 N | |
|------|---|---|
| 544. | The weight of your body is an example of: A. Distributed Force B. Contact Force C. Concentrated Force D. None of these | С |
| 545. | The moment of the resultant force about any point equals the sum of the moments of the original forces of system about the same point is: A. Varignon's Theorem B. Principle of Moments C. Principle of Transmissibility D. None of the above | В |
| 546. | A lug wrench is used to tighten a square-head bolt. How many couples are acting on square head bolt: A. One B. Two C. Four D. Zero View C Detail (clearances exaggerated) | В |
| 547. | The magnitude of the moment about the base point O of the 100-N force is: A. 43.30 N.m CCW B. 43.30 N.m CW C. 50 N.m CCW D. 50 N CW 100 N 0.5 m | A |
| 548. | The mass in both slugs and kilograms of a 3000-lb car is: A. 93.2 slugs, 1361 kg B. 305.8 slugs, 4468 kg C. 305.8 slugs, 20.93 kg D. 93.2 slugs, 6.38 kg | A |
| 549. | The magnitude F_s of the tensile spring force in order that the resultant of F_s and F is a vertical force is: A. 60 lb | В |

| | B. 10 lb | |
|------|---|---|
| | C. 103.9 lb | |
| | D. 17.3 lb | |
| | F = 20 lb | |
| | | |
| | | |
| | | |
| | 60° | |
| | A | |
| | | |
| | As the result of a wind blowing normal to the plane of the rectangular sign, a uniform pressure of 3.5 N/m^2 is exerted in the direction shown in the figure. The magnitude | |
| | of resultant force is: | |
| | A. 17.5 lb | |
| | B. 0.252 N | |
| | C. 80.2 lb | |
| | D. 2520 N | |
| 550. | 24 cm | В |
| | | |
| | 30cm | |
| | JOSHI | |
| | | |
| | 40 cm | |
| | | |
| | The manual in a section M. As the whole of the harden | |
| | The moment is a vector M to the plane of the body: A. Clockwise | |
| | B. Counterclockwise | |
| 551. | C. Both A and B | D |
| | D. Perpendicular | |
| | D. Telpendicular | |
| | The statement, "a force can be applied at any point on its given line of action without | |
| | altering its resultant effects external to the rigid body on which it acts" represents: | |
| | A. Varignon's Theorem | |
| 552. | B. Principle of Moments | C |
| | C. Principle of Transmissibility | |
| | D. Law of polygon of forces | |
| | | |
| | Forces $F1 = 120$ N and $F2 = 100$ N act on the bracket as shown. Determine the | |
| | projection F_b of their resultant R onto the b-axis. | |
| | A. 144.3 N | |
| | B. 160.13 N | |
| | C. 192.1 N D. 177.13 N | |
| 553. | D. 177.13 N | D |
| | F_1 | 2 |
| | | |
| | C 30° | |
| | ∞ <u>-</u> 20° | |
| | F ₂ b | |
| | | |
| | The 1200-N force F is applied to the end of the I-beam. Express F as a vector using | |
| | the unit vectors i and j. | |
| 554. | A. 720i - 960j | С |
| | B720i + 960j | - |
| | C720i - 960j | |
| | D. $720i + 960j$ | |

| | $F = \frac{1}{3}$ | |
|------|---|---|
| 555. | Calculate the moment of the 300-N force on the handle of the monkey wrench about the center of the bolt. A. 52.62 N.m B. 60.28 N.m C. 46.47 N.m D. 55.62 N.m | D |
| 556. | The indicated force couple system is applied to a small shaft at the center of the rectangular plate. Replace this system by a single force and specify the coordinate of the point on the y-axis through which the line of action of this resultant force passes: A: - 75mm B. 75mm C. 85mm D 70mm | A |
| 557. | The magnitude of the moment about point A of the 600-N force is: A. 1200 N.m CW B. 1200 N.m CCW C. Zero D. 2610 N.m CW | С |
| 558. | In force-couple system, to balance the change in the moment of the given force, the given force is replaced by: A. A couple B. Opposite force and a couple C. Equal parallel force and a couple D. Two equal parallel forces | С |
| 559. | The x and y scalar components of F are: A. 460 N, -386 N B. 383 N, -321 N C. 460 N, 386 N | A |

| | D. 420 N, -280 N | |
|------|---|---|
| | $D. \ 420 \text{ IN, } -280 \text{ IN}$ $$ | |
| 560. | The slope of the 6.5 kN force F is specified as shown in the figure. Express F as a vector in terms of the unit vectors i and j: A4.8i - 2j kN B6i - 2.5j kN C2.5i - 6j kN D. 2.5i - 6j kN F = 6.5 kN F = 6.5 kN | В |
| 561. | If F ₁ = 600 N and F2= 500 N then the resultant R of these two forces will be: A. 358 N B. 491 N C. 650 N D. 500 N | С |
| 562. | The 50 N force F is applied to the vertical pole, the scalar components of the force vector F along the x and y' axes will be: A. 250 N, -433 N B. 1000 N, -866 N C. 100 N, -87 N D. 50 N, -45 N | C |
| 563. | Which of the following statement is correct? A. A fixed support is capable of supporting a transverse force only. B. Roller support transmits a force normal to the supporting surface. C. The force exerted by a flexible cable on a body is always compressive. D. A pin connection can support force in any direction parallel to the axis of pin. | В |

| 564. | Calculate the tension T in the cable which supports 500 N load with the pulley arrangement shown in figure. Each pulley is free to move about its bearing and weights of all parts are negligible. A. 250 lb B. 500 N C. 125 N D. 250 N | |
|------|---|---|
| 565. | The 30-kg homogeneous smooth sphere rests on the two inclines as shown. The contact forces at A and B will be: A. 101.6 N, 196.2 N B. 149.4 N, 280.8 N C. 198.5 N, 320.7 N D. 100.3 N, 150.8 N | В |
| 566. | Which of the following statement is correct? A. A truss is statically indeterminate if it has less external supports than are needed to prevent collapse. B. A truss is statically indeterminate if it has more external supports than are needed to prevent collapse. C. A statically indeterminate truss can be analyzed by the equations of equilibrium alone. D. A statically determinate truss cannot be analyzed by the equations of equilibrium alone. | В |
| 567. | In method of joints, analysis is begin with the joint where not more than unknown forces are present. A. One B. Three C. Two D. Four | С |
| 568. | The forces in members AE and AB of the loaded truss will be: A. 1.414 kN C, 1 kN T B. 1.414 N C, 1 N T C. 4.14 N C, 3.52 N T D. 2.83 N C, 2 N T | D |

| | E D | |
|------|---|---|
| | The forces in members AB and BC of the loaded truss will be: A. 5 kN T, 7.07 kN C | |
| 569. | B. 10 N T, 14.14 N C C. 12.5 N C, 15 N T D. 5 N T, 7.07 N C | В |
| 570. | In U.S customary system, the unit of specific weight is: A. lb/ft ² B. N/m ³ C. lb/in ² D. lb/ft ³ | D |
| 571. | Which of the following conditions is correct: A. $F_k < F_{max}$ B. $F_k > F_{max}$ c. $\mu_k > \mu_s$ D. None of these | A |
| 572. | The 2.4 kg wooden block is used for level support of the 18 kg can of paint. The total force exerted by the roof surface on the wooden block is: A. 100.1 N upward B. 200.1 N upward C. 150.1 N upward D. 250.1 N upward | В |
| 573. | The 800-N force is applied to the 100-kg block, which is stationary before the force is applied. The magnitude and direction of the friction force F exerted by the horizontal surface on the block will be: A. 379 N left B. 348.6 N right C. 450 N left D. 348.6 N left | D |
| 574. | The position coordinate of a particle which is confined to move along a straight line is given by $s = 3t^3 - 20t + 6$, where s is measured in meters from a convenient origin and t is in seconds. The time required for the particle to reach a velocity of 61 m/s from its initial condition at $t = 0$ will be: A. 4 sec B. 3 sec C. 5 sec D. 2 sec | В |

| 575. | The velocity of a particle is given by $v=20t^2$ - $100t$ +50, where v is in meters per second and t is in seconds. If a is zero, then the velocity of the particle will be: A. 264 m/s B. 175 m/s C. 75 m/s D. -270 m/s | C |
|------|--|---|
| 576. | Choose the correct statement: A. The direction of the velocity of a particle in curvilinear motion is always tangent to the path. B. There is no distinction between the <i>magnitude of the derivative</i> and the <i>derivative of the magnitude</i>. C. The direction of the acceleration of a particle in curvilinear motion is normal to the path. D. None of these | A |
| 577. | A particle which moves with curvilinear motion has coordinates in meters which vary with the time t in seconds according to $x=2t^2$ - 4t and $y=3t^2$ - $1/3t^3$. If $t=2$ s, the magnitude of the acceleration a will be: A. 7.21 m/s^2 B. 4.47 m/s^2 C. 14.42 m/s D. 9.18 m/s^2 | В |
| 578. | A 70-kg man stands on a spring scale in an elevator. During the first 3 seconds of motion from rest, the tension T in the hoisting cable is 8000 N. What will be the reading R of the scale in newtons during this interval. The total mass of the elevator, man, and scale is 740 kg. A. 756.7 N B. 830 N C. 580 N D. 820 N | A |
| 579. | If the working component Ft is in the opposite direction of the displacement, then the work will be: A. Positive B. Negative C. Zero D. None of these | В |
| 580. | Which is NOT a property of a parallelogram A. Diagonals bisect each other B. Diagonals are congruent C. Both pairs of opposite sides are parallel D. Both pairs of opposite angles are congruent | В |
| 581. | There are two forces P and Q with unequal weights 40g and 60g respectively hanging on the pulleys if the given angle ∠AOB is 62° find the resultant R by using the formula for unequal weights A. 86g B. 98g C. 78g D. 8.8g | A |
| 582. | Which is true about law of parallelogram A. By using parallelogram law it is not possible to resolve a given vector into components for the known line of action B. By using parallelogram law it is possible to resolve a given vector into components for the known line of action C. By using parallelogram law it is possible to resolve the scalar components for the known line of action D. All options are correct | В |

| 583. | For any system of coplanar concurrent forces in equilibrium,may be drawn whose sides are proportional and parallel to the forces taken in order A. Rectangle | C |
|--------------|--|---|
| | B. Triangle | С |
| | C. Polygon | |
| | D. Triangle and Rectangle | |
| 584. | In law of polygon of forces, If any number of forces acting at a point can be | |
| | represented in direction and magnitude by the sides of a polygon taken in order, then the forces are in equilibrium | |
| | A. The first part of the statement is false and other part is true | D |
| 304. | B. The first part of the statement is false and other part is false too | D |
| | C. The first part of the statement is true and other part is false | |
| | D. The first part of the statement is true and other part is true too | |
| 585. | A spring has a spring constant of 330 N/m. How far is the spring compressed if | |
| | 150 N of force are used? | |
| | A. 2.2 m | |
| | B. 5.0 m | С |
| | C. 0.45 m D. 0.0014 m | |
| | D. 0.0014 III | |
| 586. | The spring constant of an object tells you? | |
| | A. What type of spring you are dealing with | |
| | B. How long the spring will stretch or compress | |
| | C. It gives you a value on how easy or hard it is to change the objects | C |
| | length. | |
| | D. A spring constant gives you a number which tells you what material the spring is made of. | |
| 587. | spring is made or. | |
| | V-shape belt hanging over a frictionless pulley which produce friction on the | |
| | other block with driving force of 8N if block with a force 10N is connected. If | |
| | the coefficient of friction between the forces is 0.5, then find the angle of the | |
| | system? | A |
| | A. 3.2° | |
| | B. 5.2° C. 7.2° | |
| | D. 9.2° | |
| | Answer A | |
| 588. 589. | Which of the following statement is correct? | |
| | A. The algebraic sum of the forces, constituting the couple is zero | |
| | B. A couple cannot be balanced by a single force but can be balanced only | D |
| | by a couple of opposite sense | D |
| | C. The algebraic sum of the forces, constituting the couple, about any point | |
| | is the same D. All options are correct | |
| | The frictional force in the belts always acts to the surface of the | |
| | application of the friction. | |
| | A. Tangential | ٨ |
| | B. Perpendicular | Α |
| | C. Parallel | |
| | D. Normal | |
| 590. | | |
| | | |