



## PART – A

1. From the words given below, which word will come last in alphabetical order ?

- A) Regard  
B) Refer  
C) Remind  
D) Report

**Direction Q. 2 : A foreign expression and four English phrases are given. Identify the meaning of the foreign expression from the choices.**

2. via media

- A) Medium of instruction  
B) A mediator  
C) Bypass someone  
D) A middle course

**Direction Q. 3 : Identify the meaning of underlined word as used in the sentence, from among four alternatives.**

3. In our system of education, homework is imperative.

- A) unnecessary  
B) a handicap  
C) authorized  
D) compulsory

**Direction Q. 4 : An idiom and four possible meanings are given, identify the meaning of the idiom from among the answer choices.**

4. The bottom line

- A) the trick  
B) the most important factor  
C) the secret  
D) ignorance

**Direction Q. 5 : Fill in the blanks in the given sentence to make it logically and grammatically correct.**

5. \_\_\_\_\_ 15, Anthony left school and found a job in a factory.

- A) By  
B) At  
C) Since  
D) In

**Direction Q. 6 : A sentence is written in four different forms. Only one of them is grammatically correct. Choose the correct sentence as your answer.**

6. A) We don't have any money to spend on luxury things.  
B) We don't have any money to spend on luxuries.  
C) We don't have no money to spend on luxury things.  
D) We don't have any money to spend on things with luxury.



**Direction Q. 7 :** Four alternative substitutes are given for the underline portion. Identify the choice that replace the underline part to form a logical and grammatically correct statement.

7. I have come to Kashmir not to work but to enjoy.
- A) but to enjoy with the beautiful scenery
  - B) but to enjoy myself
  - C) but to enjoying the beautiful scenery
  - D) but to enjoy

**Direction Q. 8 :** A word and four jumbled choices are given. One of the choices, when properly arranged, give the meaning of the word. Identify the correct choice.

8. AIM
- A) NETIOTNIN
  - B) ETTILL
  - C) EATRX
  - D) PYAHP

**Direction Q. 9:** From the choices, select the most suitable synonym for the main word.

9. RECKON
- A) repose
  - B) confirm
  - C) understand
  - D) regain

**Direction Q. 10 :** From the choices, select the most suitable antonym for the main word.

10. REplete
- A) profuse
  - B) wanting
  - C) lavish
  - D) glutton

**Direction Q. 11 :** There is a certain relation between two given words on one side of : and one word is given on another side of :: while another word is to be found from the given alternatives, having the same relation with this word as the given pair has. Select the best alternative.

11. Car : Garage :: Aeroplane : ?
- A) Port
  - B) Depot
  - C) Hanger
  - D) Harbour

**Direction Q. 12 :** There is a certain relation between two given numbers on one side of :: and one number is given on another side of :: while another number is to be found from the given alternatives, having the same relation with this number as the given pair has. Select the best alternative.

12. 121 : 12 :: 25 : ?
- A) 1
  - B) 2
  - C) 6
  - D) 7



**Direction Q. 13 :** In the given question, four words have been given, out of which three are alike in some manner and the fourth one is different. Choose out the odd one.

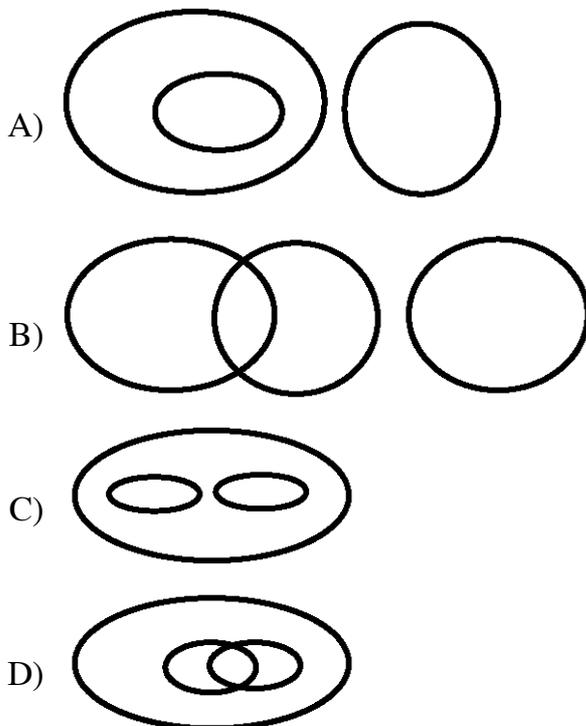
13. A) Apple                      B) Mango                      C) Potato                      D) Orange

**Direction Q. 14 :** In the given question, four numbers are given. Out of these, three are alike in a certain way but the rest one is different. Choose the one which is different from the rest three.

14. A) 15                      B) 21                      C) 24                      D) 28

**Direction Q. 15 :** In the given question, a number series is given with one term missing. Choose the correct alternative that will continue the same pattern.

15. 2, 5, 9, (\_\_\_\_), 20, 27  
 A) 14                      B) 16                      C) 18                      D) 24
16. If in a certain language, FASHION is coded as FOIHSAN, how is PROBLEM coded in that code ?  
 A) ROBLEMP              B) PELBORM              C) PRBOELM              D) RPBOELM
17. Which of the following diagrams correctly represents Languages, French, German ?





18. If P denotes  $\div$ , Q denotes  $\times$ , R denotes  $+$  and S denotes  $-$ , then  
18 Q 12 P 4 R 5 S 6 = ?  
A) 36                      B) 53                      C) 59                      D) 65
19. If 76 is divided into four parts proportional to 7, 5, 3, 4, then the smallest part is  
A) 12                      B) 15                      C) 16                      D) 19
20. 36 men can complete a piece of work in 18 days. In how many days will 27 men complete the same work ?  
A) 12                      B) 18                      C) 22                      D) 24
21. ROM is composed of  
A) Magnetic Cores                      B) Microprocessors  
C) Photoelectric Cells                      D) Floppy Disks
22. ASTROSAT is  
A) Indian Mission to Moon                      B) Indian Mission to Jupiter  
C) Indian Space Observatory                      D) Indian Communication Satellite
23. The theme of the National Youth Day-2017 was  
A) Youth for Change                      B) Youth for Sustainable Development  
C) Youth for Digital India                      D) Youth for Entrepreneurship
24. Kuchipudi is a dance originating from which of the following States ?  
A) Tamil Nadu                      B) Telangana                      C) Kerala                      D) Andhra Pradesh
25. 'NAKSHE' is a Web Portal launched by  
A) Archeological Survey of India                      B) Survey of India  
C) Geological Survey of India                      D) Botanical Survey of India
26. Law of conservation of mass is not applicable in  
A) Redox reactions                      B) Electrochemical reactions  
C) Nuclear reactions                      D) All of the above
27. In laboratory, if acid is spilled on someone, what should be done ?  
A) Rinse with water                      B) Inform the laboratory incharge  
C) Visit the physician                      D) All of the above
28. Which of the following is not the general characteristic of good writing ?  
A) Simple                      B) Use of short sentences  
C) Deliberate use of complex words                      D) Flow in the text



29. What is/are the driving force(s) for research ?  
A) Search for solution to a problem  
B) Enhancement of knowledge in a specific field  
C) Recognition of work  
D) All of the above
30. Text books are generally protected by following intellectual property  
A) Copyright  
B) Patent  
C) Industrial design  
D) Geographical indication
31. If a class of 40 students is consisted of 20 students of age of 19 years, 08 students of age of 20 years and 12 students of 25 years, the average age of class comes out to be  
A) 21.3 years  
B) 21 years  
C) 19 years  
D) 22 years
32. The pH of a buffer is generally derived from  
A) Henderson–Hasselbalch equation  
B) de-Broglie’s equation  
C) Poiseuille’s law  
D) Newton’s law
33. Which kind of research exclusively deals with numeric data ?  
A) Qualitative  
B) Quantitative  
C) Both  
D) None
34. Which portion of the thesis or dissertation, generally is the last section ?  
A) Literature review  
B) Methods  
C) Conclusion  
D) Results
35. Which is the correct answer for  $1.00 + 2.149 + 4.1$  ?  
A) 7.249  
B) 7  
C) 7.2  
D) 7.3
36. The volume of a fluid is never expressed in  
A)  $\text{dm}^3$   
B) L  
C) Gallons  
D) Pounds
37. Which of the following is not a method for data collection ?  
A) Interviews  
B) Schedules  
C) Questionnaires  
D) None of the above
38. Which of the following equipments is used to quantitatively suck liquids in laboratories ?  
A) Pipettes  
B) Beakers  
C) Test tubes  
D) Clamps





## PART – B

51. The Reynold number for open channel is less than 500. The flow in the open channel is  
A) Turbulent      B) Laminar      C) Critical      D) Sub-critical
52. The flow in a open channel is said to be sub-critical, when the Froude number is  
A) Less than 2      B) More than 1      C) Less than 1      D) Equal to 1
53. The depth of flow at which the specific energy is minimum is called  
A) Critical depth      B) Laminar depth  
C) Sub-critical depth      D) None of the above
54. The viscosity of liquid decreases with  
A) Decrease in Temperature      B) Increase in Temperature  
C) Remains unchanged      D) None of the above
55. Which of the following represents the discharge above the crest of a triangular weir where K is a constant and H is the head of water over the crest of the weir ?  
A)  $KH^{2.5}$       B)  $KH^{1.5}$       C)  $KH^{0.75}$       D)  $KH^2$
56. Which of the following equations represents the velocity of flow (V) in open channel using Chezy's formula where C = Chezy's constant, m = hydraulic mean depth and i = slope of the bed of channel ?  
A)  $V = C(mi)^{0.5}$       B)  $V = C(mi)^2$   
C)  $V = C(mi)^3$       D)  $V = C(mi)$
57. The flow in an open channel is said to be super-critical, when the Froude number is  
A) Less than 2      B) More than 1      C) Less than 1      D) Equal to 1
58. Line which separates one catchment from its neighboring catchment is called  
A) Water Divide      B) Contour Line  
C) Water Line      D) Isohyets
59. Orographic precipitation occurs due to lifting of air masses to higher altitude by  
A) Frontal action      B) Density difference of air masses  
C) Tropical cyclones      D) Presence of mountain barriers
60. Low intensity rain having water drop size less than 0.5 mm which appears floating in the air is called  
A) Dew      B) Drizzle      C) Sleet      D) Hail





70. Flow duration curve is a plot of
- A) Discharge against time
  - B) Stage against discharge
  - C) Mass curve
  - D) Discharge against percentage of time flow is equalled or exceeded
71. Drainage density of a basin is represented by
- A) Area of streams per catchment area
  - B) Total length of streams per catchment area
  - C) Mass curve
  - D) Number of streams per catchment area
72. Drainage density of a basin is more. This represents
- A) High peak hydrograph
  - B) Low peak hydrograph
  - C) High time base hydrograph
  - D) Does not affect hydrograph
73. A second order stream joins a first order stream. The order of new stream will be
- A) Second order
  - B) First order
  - C) Third order
  - D) Fourth order
74. Slope of flow mass curve represent
- A) Average flow
  - B) Rate of flow at that instant of time
  - C) Mass curve
  - D) Represents time to achieve peak
75. In a basin number of first order streams and second order streams are respectively 80 and 20, the bifurcation ratio is
- A) 8
  - B) 2
  - C) 3
  - D) 4
76. Which of the following empirical equation represents the time from the peak to the point showing the end of recession in a hydrograph, where  $N$  = Time in hours from the peak to the point showing the end of recession and  $A$  = Catchment area in  $\text{km}^2$  ?
- A)  $N = 19.92A^{0.2}$
  - B)  $N = 19.92A^{0.3}$
  - C)  $N = 19.92A^{0.4}$
  - D)  $N = 19.92A^{0.5}$
77. The Lag-time on a stream hydrograph represents
- A) Time between rain events
  - B) Time between flood events
  - C) Time of rain
  - D) Time between rain events and peak of flood hydrograph





85. For a circular channel section the conditions for maximum velocity is
- A) Depth of flow = Diameter of Channel
  - B) Depth of flow = 0.81 times the diameter of Channel
  - C) Depth of flow = 0.51 times the diameter of Channel
  - D) Depth of flow = 1.51 times the diameter of Channel
86. For a circular channel section the conditions for maximum discharge is
- A) Depth of flow = Diameter of Channel
  - B) Depth of flow = 0.81 times the diameter of Channel
  - C) Depth of flow = 0.95 times the diameter of Channel
  - D) Depth of flow = 1.95 times the diameter of Channel
87. The total depth of water required by a crop from growing to harvesting period is called as the
- A) Duty of crop
  - B) Delta of crop
  - C) Crop coefficient
  - D) Base period of crop
88. The porosity of soil is represented by which of the following ?
- A) Specific yield + specific retention
  - B) Specific yield – specific retention
  - C) Specific yield  $\times$  specific retention
  - D) None of the above
89. The ratio of transmissibility to thickness of aquifer is known as
- A) Porosity
  - B) Hydraulic conductivity
  - C) Coefficient of permeability
  - D) None of the above
90. The horse power of a pump required to lift water having density 'w' kg/m<sup>3</sup> to a height of 'H' meter at the rate of Q m<sup>3</sup>/sec
- A)  $\frac{WQH}{75}$
  - B)  $\frac{WQH}{756}$
  - C)  $\frac{WQ}{75H}$
  - D)  $\frac{WH}{75Q}$
91. The unit of Kinematic Viscosity is
- A) Stoke
  - B) Poise
  - C) Newton-sec
  - D) None of the above
92. Dicken's formula used to determine the value of runoff from a catchment (where C is a constant and A is the area of catchment in km<sup>2</sup>) is expressed as
- A) CA<sup>3/4</sup>
  - B) CA<sup>3/2</sup>
  - C) CA<sup>3</sup>
  - D) CA<sup>1/4</sup>



93. In case of a rectangular weir an error of 1% in measuring head of water will cause which of the following error in measuring discharge through weir ?  
A) 2%                      B) 2.5%                      C) 1.5%                      D) 1%
94. A real fluid in which the shear stress is not proportional to the rate of shear strain is called  
A) Newtonian Fluid                      B) Plastic Fluid  
C) Non-Newtonian Fluid                      D) None of the above
95. In case of a triangular weir an error of 1% in measuring head of water will cause which of the following error in measuring discharge through weir ?  
A) 2%                      B) 2.5%                      C) 1.5%                      D) 1%
96. The power transmitted through pipes is maximum when loss of head due to friction is  
A)  $1/3^{\text{rd}}$  of the total head at inlet  
B)  $2/3^{\text{rd}}$  of the total head at inlet  
C)  $1/4^{\text{th}}$  of the total head at inlet  
D) None of the above
97. Poise is the unit of which of the following property of fluid ?  
A) Shear stress                      B) Viscosity  
C) Flow                      D) Kinematic viscosity
98. The Moment of Inertia of a rectangular section ( base = B and depth = D) about its base is represented by  
A)  $\frac{BD^3}{3}$                       B)  $\frac{BD^3}{12}$                       C)  $\frac{BD^3}{6}$                       D)  $\frac{BD^3}{36}$
99. The Moment of Inertia of a triangular section (base=B and height =H) about its base is represented by  
A)  $\frac{BH^3}{3}$                       B)  $\frac{BH^3}{12}$                       C)  $\frac{BH^3}{6}$                       D)  $\frac{BH^3}{36}$
100. A grid obtained by drawing a series of equipotential lines and stream lines and is used to analyse irrotational flow problems is called  
A) Stream function                      B) Flow net  
C) Velocity grid                      D) None of the above
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**SPACE FOR ROUGH WORK**