



18. Simple interest on a certain amount is $\frac{9}{16}$ of the principal. If the number representing the rate of interest in percent and time in years be equal, then time, for which principal is lent out is
A) $5\frac{1}{2}$ years B) $6\frac{1}{2}$ years C) 7 years D) $7\frac{1}{2}$ years
19. Fresh watermelons contain 90% water by weight whereas dry watermelons contain 20% water by weight. What is the weight of dry watermelon obtained from 20 kgs of fresh watermelon ?
A) 2.4 kg B) 2 kg
C) 2.5 kg D) Cannot be determined
20. A, B and C together earn Rs. 300 per day, whereas A and C together earn Rs. 188 and B and C together earn Rs. 152. The daily earning of C is
A) Rs. 40 B) Rs. 68 C) Rs. 112 D) Rs. 150
21. $1307 \times 1307 = ?$
A) 1601249 B) 1607249 C) 1701249 D) 1708249
22. If green means red, red means yellow, yellow means blue, blue means orange and orange means green, what is the colour of clear sky ?
A) Blue B) Red C) Yellow D) Green
23. Lakshmi and Meena are Rohan's wives. Shalini is Meena's step-daughter. How is Lakshmi related to Shalini ?
A) Sister B) Mother-in-law C) Mother D) Step-mother
24. Statements :
- I. The government has allowed private airline companies in India to operate to overseas destinations.
II. The national air carrier has increased its flights to overseas destinations.
A) Statement I is the cause and statement II is its effect
B) Statement II is the cause and statement I is its effect
C) Both the statements I and II are independent causes
D) Both the statements I and II are effects of independent causes
25. Abduction is related to Kidnapping in the same way as Larceny is related to ?
A) Theft B) Crime C) Blackmail D) Sin



PART – B

26. Acceleration due to gravity decreases with
- A) horizontal displacement B) amplitude
C) altitude D) weight
27. “C” is a universal gravitational constant and its value is?
- A) $6.973 \times 10^{-11} \text{ Nm}^{-2}\text{Kg}^{-1}$
B) $6.743 \times 10^{-11} \text{ Nm}^{-2}\text{Kg}^{-1}$
C) $6.873 \times 10^{-11} \text{ Nm}^{-2}\text{Kg}^{-1}$
D) $6.673 \times 10^{-11} \text{ Nm}^{-2}\text{Kg}^{-1}$
28. Which one is not an example of adiabatic process?
- A) rapid escape of air from a burst tyre
B) rapid expansion of air
C) conversion of water into ice in refrigerator
D) cloud formation in the atmosphere
29. The average molecular kinetic energy of a gas depends on:
- A) Pressure B) Volume
C) Temperature D) Number of moles
30. The relation derived for the total emissive power of the black body as a function of wavelength and based on quantum theory is known as
- A) Planck’s law
B) Kirchhoff’s law
C) Stefan-Boltzmann law
D) Second law of thermodynamics
31. Solar radiation flux is usually measured with the help of a
- A) Anemometer B) Pyranometer
C) Sunshine recorder D) Pyrometer
32. Einstein was awarded Noble Prize on the basis of
- A) Superconductivity
B) Quantum theory of light
C) Theory of relativity
D) Explanation of photoelectric effect



33. A rocket or jet engine works on the principle of
- A) Conservation of energy
 - B) Conservation of momentum
 - C) Conservation of mass
 - D) Newton's second law of motion
34. The total energy of a molecule is shared equally by the various degrees of freedom possessed by it. This law is known as
- A) law of degradation of energy
 - B) law of conservation of energy
 - C) law of equipartition of energy
 - D) law of conservation of momentum
35. The major contributor of Carbon monoxide is
- A) Motor vehicle
 - B) Industrial processes
 - C) Stationary fuel combustion
 - D) Forest fire
36. Release of energy from sun is due to
- A) nuclear fission
 - B) nuclear fusion
 - C) burning of gases
 - D) chemical reaction
37. The absorption of ink blotting paper involves
- A) viscosity of ink
 - B) capillary action phenomenon
 - C) diffusion of ink through the blotting
 - D) siphon action
38. If the spinning speed of the earth is increased then the weight of body at the equator
- A) Increases
 - B) Doubles
 - C) Does not change
 - D) Decreases
39. It is more difficult to walk on a sandy road than on a concrete road because
- A) sand is soft and concrete is hard
 - B) the friction between sand and feet is less than between concrete and feet
 - C) the friction between sand and feet is more than that between concrete and feet
 - D) the sand is grainy but concrete is smooth



49. Newton-Raphson method is applicable to the solution of
- A) Both algebraic and transcendental Equations
 - B) Both algebraic and transcendental and also used when the roots are complex
 - C) Algebraic equations only
 - D) Transcendental equations only
50. Slope intercept form of linear equation in generalized form is given as
- A) $x = mx+k-y$
 - B) $y = ak-mx$
 - C) $y = mx+k$
 - D) $ky = mx+k$
51. A partial differential equation has
- A) one independent variable
 - B) more than one dependent variable
 - C) equal number of dependent and independent variables
 - D) two or more independent variables
52. Which of the following is a real fluid ?
- A) Water
 - B) Syrup
 - C) Salt water
 - D) Chemical acid
53. Find dy/dt if $y = x^2 + 3x + 1$ and $x = t^2 + 2$.
- A) $4t^3 + 14t^2$
 - B) $t^3 + 4t$
 - C) $4t^3 + 14t$
 - D) $4t^3 + t$
54. Ozone is formed in the upper atmosphere by a photochemical reaction with
- A) Ultra violet solar radiation
 - B) Infra red radiation
 - C) Visible light
 - D) Infra red
55. Which of the following statements applies to the bisection method used for finding roots of functions?
- A) Converges within a few iterations
 - B) Guaranteed to work for all continuous functions
 - C) Is faster than the Newton-Raphson method
 - D) Requires that there be no error in determining the sign of the function
56. Fluid in which resistance to flow takes place is
- A) viscous fluid
 - B) non viscous fluid
 - C) water
 - D) oil



66. A listing of the possible outcomes of an experiment and their corresponding probability is called
- A) Random Variable B) Contingency Table
C) Bayesian Table D) Probability Distribution
67. In a box, there are 8 red, 7 blue and 6 green balls. One ball is picked up randomly. What is the probability that it is neither blue nor green?
- A) $2/3$ B) $8/21$
C) $3/7$ D) $9/22$
68. Two regression lines are parallel to each other if their slope is
- A) different B) same
C) negative D) positive
69. If the scatter diagram is drawn the scatter points lie on a straight line then it indicate
- A) Perfect correlation B) Skewness
C) No correlation D) Standardized
70. What type of data do you need for a chi-square test?
- A) Ratio B) Interval
C) Categorical D) Scales
71. The term “statistical independence” means
- A) a study has more than one independent variable
B) the null hypothesis is correct
C) the alternative hypothesis is correct
D) there is no relationship between two variables
72. Which protocol provides e-mail facility among different hosts?
- A) FTP B) SMTP
C) TELNET D) SNMP
73. What is the main difference between a mainframe and a super computer?
- A) Super computer is much larger in size than mainframe computers
B) Super computers are much smaller than mainframe computers
C) Supercomputers are focused to execute few programs as fast as possible while mainframe uses its power to execute as many programs concurrently
D) Supercomputers are focused to execute as many programs as possible while mainframe uses its power to execute few programs as fast as possible.



74. What are the stages in the compilation process?
- A) Lexical Analysis, syntax analysis, and code generation
 - B) Feasibility study, system design and testing
 - C) Implementation and documentation
 - D) Input, Processing of coding, output
75. GUI stands for
- A) Graph User Interface
 - B) Graphical User Interface
 - C) Graphical Unique Interface
 - D) Graphical Universal Interface
76. Which one of the following is not an application software package?
- A) Redhat Linux
 - B) Microsoft Office
 - C) Adobe Pagemaker
 - D) Open Office
77. Operating System is the most common type of _____ software.
- A) Communication
 - B) Application
 - C) System
 - D) Word Processing Software
78. Which language is directly understood by the computer without translation program?
- A) Machine language
 - B) Assembly language
 - C) High level language
 - D) BASIC language
79. A top-to-bottom relationship among the items in a database is established by a
- A) Hierarchical schema
 - B) Network schema
 - C) Relational Schema
 - D) Sequential Schema
80. Key to represent relationship between tables is called
- A) primary key
 - B) secondary key
 - C) foreign key
 - D) single key
81. RISC stands for
- A) Risk Instruction Source Computer
 - B) Reduced Instruction Set Computer
 - C) Risk Instruction Set Computer
 - D) Risk Instruction Set Computing



82. The ascending order of a data Hierarchy is
- A) bit - bytes - record - field - file – database
 - B) bytes - bit- field - record - file – database
 - C) bytes -bit - record - field - file – database
 - D) bit - bytes - fields - record - file – database
83. What was the name of the 1st Super computer imported by India?
- A) VAX
 - B) CYBER
 - C) IBM
 - D) CRAY
84. The interface between a user and the system is called
- A) Shell
 - B) Kernel
 - C) Execution
 - D) Operating System
85. What is the utility of the command “telnet” in Linux?
- A) Telephone network
 - B) Television network
 - C) Remote login
 - D) Communicate
86. Area where trade winds of both hemispheres meet is called
- A) horse latitude
 - B) polar easterlies
 - C) westerlies
 - D) doldrums
87. Which layer of the atmosphere has the highest density of gas molecules?
- A) Exosphere
 - B) Stratosphere
 - C) Mesosphere
 - D) Troposphere
88. The two most important greenhouse gases are
- A) CO₂ and CFCs
 - B) CO₂ and CH₄
 - C) CO₂ and H₂O
 - D) CO₂ and SO₂
89. The Greenhouse Effect is caused primarily by which of the following processes?
- A) blocking incoming short wave solar energy
 - B) absorbing incoming short wave solar energy
 - C) heating of the Earth’s stratosphere
 - D) absorbing outgoing long wave radiation from the Earth
90. The degree of aridness of a geographic region is generally defined as the ratio of precipitation to
- A) condensation
 - B) evaporation
 - C) transpiration
 - D) radiation



SPACE FOR ROUGH WORK