NUST Past Paper – Engineering

Total Time: 3 Hrs Total Question: 200

1) The number $\sqrt{n}$, where n is a prime number is
   a. A Natural number
   b. A Rational number
   c. An Irrational number
   d. Whole number
2) Every prime number is also
   a. Rational
   b. Even number
   c. Irrational number
   d. Multiple of two number
3) (a, b) +(-a,-b)=
   a. (0,0)
   b. (a ,b)
   c. (-a,-b)
   d. (1,1)
4) If z = x-iy/x+iy then |z| is
   a. 0
   b. 1
   c. -1
   d. None
5) Every recurring or every terminating decimal represents
   a. An integer
   b. A rational number
   c. An irrational number
   d. A prime number
6) What is the conjugate of -6-i?
   a. -6+i
   b. 6+i
   c. -6-i
   d. 6-i
7) If z1=$\sqrt{-36}$, z2=$\sqrt{-25}$, z3=$\sqrt{-16}$ then what is sum of z1, z2 and z3?
   a. 15
   b. 15i
   c. -15i
   d. -15

8) $\{ x|x=p/q , p,q \in Z \wedge q \neq 0\}$ is set of all
   a. Natural number
   b. Integers
   c. Irrational number
   d. Rational number
9) Deductive logic in which every statement is regarded as true or false and there is scope for a third or fourth possibility is called
   a. Proposition
   b. Deduction
   c. Non- Aristotelian logic
   d. Aristotelian
10) The function $\{x ,y|y=(1/2)x^2\}$ is
   a. Constant
   b. Onto
   c. One to one
   d. None of these
11) The function $f=\{(x,y)|y =mx+c\}$ is
   a. Quadratic function
   b. Constant function
   c. Cubic function
   d. Linear function
12) An element e ε A is said to be identity element with respect to a binary operation on A if for all e ε A
   a. e x a = a x e =0
   b. e x a = a x e 0
   c. e x a = a x e =e
   d. e x a = a x e =a
13) In a school, there are 150 students. Out of these 80 students enrolled for mathematics class, 50 enrolled for English class, 60 enrolled for physics class. The student enrolled for English cannot attend any other class , but student of mathematics and physics can take two courses at a time. Find the number of students who have taken both physics and mathematics.
   a. 40
   b. 30
   c. 50
   d. 20
14) The product of the roots of the equation $9X^2-5X-27=0$
   a. 5/27
   b. -5/9
   c. -1/3
   d. -3
15) The multiplicative inverse of 4 is

a. ¼
b. -1/4
c. -4
d. 1

16) If f(x)=3+x then
a. $f'(0) \neq f'(1)$
b. $f'(0) = f'(1)$
c. $f'(0) > f'(1)$
d. $f'(0) < f'(1)$

17) p, q, r and s are integers. If the A.M. of the roots of $x^2-px-q^2=0$ and G.M. of the root of $x^2+s^2=0$ are equal then
a. q is an odd integer
b. r is an even integer
c. p is an even integer
d. s is an odd integer

18) X +3/x = 4 is
a. A transcendental equation
b. Cubic equation
c. An identity
d. An equation

19) For ¼, 2/5,1,------ 6^{th} term is
a. -2
b. -2/7
c. 1/9
d. -5/6

20) In R the left cancellation property w.r.t addition is
a. $C + a = c + b \longrightarrow a=b$
b. $C + a = c + b \longrightarrow a=c$
c. $C + a = c + b \longrightarrow b=c$
d. $C + a = c + b \longrightarrow a=b=c$

21) G.M between two number 4 and -81 is
a. 324
b. -324
c. -18
d. None

22) The common ratio of a geometric sequence cannot be
a. 3
b. 1

c. 2
d. 0

23) Three G.M between 5 and 0.008 are
   a. 02,0.5,0.6
   b. 0.02, 0.05 0.06
   c. 1.0, 2 ,0.04
   d. None
24) Geo metric sequence cannot contain
   a. 0
   b. 1
   c. ½
   d. None of these
25) The 5^{th} term of the G.P. 3,6,12…… is
   a. 15
   b. 48
   c. 2
   d. 3

26) If a, b, c, d are in H.P then ab + bc +cd is
   a. 3ad
   b. (a+b)(c+d)
   c. 3ac
   d. 3bd
27) The sum of the squares of three distinct real numbers, which are in G.P., is S2. If their sum is S then
   a. $1/3 <= \alpha^2 <= 3$
   b. $1/3 < \alpha^2 < 1$
   c. $1 < \alpha < 3$
   d. $1/3 < \alpha < 1$
28) An A.P., a G.P. and a H.P. have the same first and last terms and the same odd numbers of terms, the middle terms of the three series are in
   a. A.P.
   b. G.P.
   c. H.P.
   d. None of these

29) Let Sn denote the sum of the first in terms of an A.P. if S2n = 3Sn,then S3n = Sn is equal to
   a. 4
   b. 6

c. 8
d. 10

30) csc(-α)
a. –cos α
b. –sec α
c. –csc α
d. –csc α

31) The probability of getting 5, when one dice is called
a. ½
b. 1/3
c. 1/5
d. 1/6

32) Factorial of -2=
a. -362880
b. 362880
c. 40320
d. None

33) If A and B are mutually exclusive then p (AUB) =?
a. P(A) + P(B)
b. P(A) + P(B) - P(A B)
c. P(A) + P(B) - P(AUB)
d. P(A) + P(B) + P(AUB)

34) The slope of tangent to the curve $y= x^2-2x$ at P(1,1) is
a. 2
b. 0
c. -2
d. None

35) The solution set of the equation $|3x +2| =5$ is
a. Ø
b. {1}
c. {-7/3}
d. {1, -7/3}

36) A machine operates if all of its three components function. The probability that the first component fails during the year is 0.14 the second component fails is 0.10 , and the third component fails 0.05. The probability that the machine will fail during the year is
a. 0.2647
b. 0.2692

c. 0.3647
d. None of these

37) Give two independent events A and B such that P (A) =0.30 and P (B) =0.60. probability of getting neither A nor B is
a. 0.28
b. 0.13
c. 0.12
d. 0.42

38) $Z\bar{Z}$ =?
a. Z
b. Z^2
c. |z|
d. $|z|^2$

39) If nC2 =nC3, then the value of nC4 is
a. 2
b. 3
c. 5
d. 4

40) Six identical coins are arranged in a row. The number of ways in which the number of tails is equal to the no.s of heads is
a. 20
b. 120
c. 9
d. 40

41) If n is not a natural number , then expansion of (1+x)3 is
a. -1<x<1
b. -1<x<=1
c. 2<x<2
d. -2<=x<=2

42) Sum of odd coefficients in the binomial expansion is equal to
a. 2n
b. 2n
c. 2n-1
d. 2(n-1)

43) If (3,5) is mid –point s of (5,a) and (b,7) then
a. a=1
b. b =1

c. a=-4 b= -3
d. a=3 b=1

44) nC2 = exist where n is _____
a. n≠2
b. n<2
c. n=2
d. n>2

45) The sum of odd coefficient in the expansion (1+x)4 is
a. 4
b. 8
c. 12
d. 14

46) The 3600^{th} part of the degree is called_____
a. Degree
b. Minute
c. Second
d. None

47) The 60^{th} part of one minute is called one
a. Minute
b. Radian
c. Degree
d. Second

48) Measure of the central angle of an arc of a circle whose length is equal to the radius of the circle is known as
a. 1 degree
b. 1 radian
c. 1 right angle
d. 1 reflex angle

49) A circular wire of radius 3cm is cut straightened and then bent so as to lie along the circumference of a hoop of radius 24 cm. the measure of the angle subtended at the center of the hope is
a. 15 degree
b. 30 degree
c. 45 degree
d. 60 degree

50) Sin 500-sin 700+ sin100 is equal to

a. -1
b. 0
c. 1
d. 2

51) The value of the expression tan 10 tan20 tan 30 tan40 tha 870 tan88 tan890 is equal to
a. 0
b. 1
c. 2
d. 3

52) $4\cos^3\alpha - 3\cos\alpha = ?$
a. Sin3 α
b. Tan3 α
c. Cos 3 α
d. None

53) Sin 12 a
a. 3cos34a- 4cos4a
b. 4cos34a-3cos4a
c. 3sin4a -4sin34a
d. 4sin4a -3sin34a

54) Cos 2α=
a. $\sin^2\alpha + \cos^2\alpha$
b. -cos Θ
c. Tan Θ
d. None of these

55) $\sin(180^0 - \Theta) =$
a. cos Θ
b. -Cos Θ
c. Tan Θ
d. sinΘ

56) the polar form of complex number x≠1,y =
a. rcosΘ +rsinΘ
b. rcosΘ +risinΘ
c. rsinΘ + rcosΘ
d. ricosΘ + rsinΘ

57) $\sec(-360^0) =$
a. 0
b. 1
c. 2

d. 3

58) $Cos^4\Theta - sin^4\Theta =$

a. $Cos^4\Theta$
b. $Cos^2\Theta$
c. $-sin\Theta$
d. $Sin^2\Theta$

59) The range of cscx is

a. [-1,1]
b. R
c. R-{x|-1<x<1}
d. None of these

60) The period of cotx/3 is

a. π
b. 2π
c. 3π
d. 6π

61) The graph represents

a. Cos x from- 180 to 360 degree
b. Sin x from -180 to 360 degree
c. Tan x from-180 to 360 degree
d. Cot x from-180 to 360 degree

62) Range of cot Θ is :

a. +ive infinity to -ive infinity
b. – 1 to 1
c. -5 to 5
d. Set of even numbers only

63) The functions sine and cosine have the closed interval as their range

a. [1,0]
b. [-1,1]
c. [0,1]
d. [-1,2]

64) If you are looking someone on the ground from the top a hill , the angle formed is the

a. Angle of elevation
b. Angle of depression
c. Constant angle
d. Right angle

65) The angle above horizontal line and the line of sight is an angle of

a. Elevation

b. Depression
c. Altitude
d. None

66) R_3 =

a. $\frac{\Delta}{s-b}$
b. $\frac{\Delta}{s-a}$
c. $\frac{\Delta}{s-c}$
d. $\frac{s-a}{\Delta}$

67) R =

a. $\frac{a}{2sin\gamma}$
b. $\frac{a}{2sin\beta}$
c. $\frac{c}{2sin\gamma}$
d. $\frac{a}{2sin\alpha}$

68) A tower subtends an angle α at a point on the same level as the root of the tower and at a second point, b meters above the first, the angle of depression of the foot of the tower is β. The height of the tower is

a. b cot β tanα
b. b tanα tan β
c. b tanα cot β
d. none

69) The horizontal distance between the two towers is 60m the angular elevation of the top of the taller tower as seen from the top of the shorter one is 30 degree. If height of the taller tower is 150 m. the height of the shorter one is

a. 116m
b. 200m
c. 216m
d. None

70) The longer side of parallelogram is 10cm and shorter is 6cm. if the longer diagonal makes an angles 30^0 with the longer side, the length of the longer diagonal is

a. $5\sqrt{3}+\sqrt{11}$
b. $4\sqrt{3}+\sqrt{11}$
c. $5\sqrt{3}+\sqrt{13}$

d. None

71) If you are looking a high point from the ground , then the angle formed is

a. Angle of elevation
b. Angle of depression
c. Right angle
d. Horizon

72) The value of cos $[\cos^{-1}(-\sqrt{3}/2) + \pi/6]$ is

a. 1
b. -1
c. 0
d. None

73) If cos -1 p+cos-1 q + cos -1 r=π then p2+q2+r2 +2pqr is equal to

a. 3
b. 1
c. 2
d. -1

74) Tan-1 x>cot-1x holds for'

a. X>1
b. X<1
c. X=1
d. All value of x

75) The number of triplets (x, y, z) satisfying sin -1x +cos-1y +sin-1z=2π, is

a. 0
b. 2
c. 1
d. Infinite

76) The direction cosines of y axis are

a. 1,0,0
b. 0,1,0
c. 0,0,1
d. 1,1,1

77) The value of i^{4n+1} is

a. 1
b. -1
c. i
d. i^2

78) the unit vector in the positive direction of x axis is

a. vector i
b. vector j
c. vector k
d. none

79) a vector of magnitude zero is called
   a. position vector
   b. Null vector
   c. Free vector
   d. None of these

80) If $f_1(x)$ and $f_2(x)$ are any two anti-derivatives of a function F(x), then the value of $f_1(x)-f_2(x)=$
   a. A variable
   b. A constant
   c. Undefined
   d. Infinite

81) What type of science is physics?
   a. Living things
   b. Nonliving things
   c. Experimental science
   d. Study of action and reaction and experimental science

82) The magnitude of the resultant of two forces Is 2F. if the magnitude of each force Is F, then the angle between these forces is
   a. 0^0
   b. 90^0
   c. 120^0
   d. 180^0

83) If the measuring scale has a least count of 10kg then in 8000kg the significant figures are
   a. 4
   b. 1
   c. 3
   d. 0

84) Supplementary S.I units of radian and steradian were established to measure
   a. Geometrical quantities
   b. Luminous intensity
   c. Electric current
   d. Temperature

85) S.I unit of magnetic flux is
   a. Weber meter ^{2}
   b. Weber
   c. Weber /meter
   d. Weber / meter^4

86) The physical quantity which produces angular acceleration in the body is
   a. Force

b. Moment of inertia
c. Impulse
d. Torque

87) When a vector is multiplied by a scalar of positive value, the product of the quantity will be
a. Multiple of the vector quantity in same direction
b. Multiple of the vector quantity in opposite direction
c. Multiple of the vector quantity in perpendicular to the original vector
d. None of these

88) The magnitude of the vector A,B and C are respectively 12,5 and 13 units and vector A+B=C then the angle between vector A and B is
a. 0
b. π
c. π/2
d. π/4

89) three vector satisfy the relation vector A .B =0 and A.C= 0 then A is parallel to
a. B X C
b. B.C
c. C
d. B

90) No Work Is done by the body when angle between forces and displacement is
a. 0^0
b. 45^0
c. 90^0
d. 60^0

91) If the acceleration due to gravity at the earth's surface I s 9.8m/s^2 and the mass of the earth is 80 times that of the moon and radius of earth 4 times that moon, the value of g at the moon's surface will be
a. 9.8m/s^2
b. 1.96 m/s^2
c. 4.9m/s^2
d. None

92) The particle of mass 'm' at rest is acted upon by a force 'p' for a time't'. its kinetic energy after an interval 't' is
a. $P^2 t^2/m$
b. $P^2 t^2/2m$
c. $P^2 t^2/3m$
d. P t/2m

93) The dot product of force and velocity is equal to
a. Power
b. Impulse
c. Couple

d. Momentum

94) If a force acts on a body whose action line does not pass through its centre of gravity, then the body will experience

a. Angular acceleration
b. Linear acceleration
c. No acceleration
d. None of these

95) In which case application of angular velocity is useful?

a. When a body is rotating
b. When velocity of body is in a straight line
c. When velocity is in a straight line
d. None of these

96) Center of mass is a point

a. Which is geometric center of a body
b. From which distance of particles are same
c. Where the whole mass of the body is supposed to be cantered
d. Which is origin of reference frame

97) Angular momentum has the same unit as

a. Impulse x distance
b. Linear momentum x time
c. Work x frequency
d. Power x time

98) The flow is said to streamline or laminar when every particle

a. Moves in different direction
b. Moves along the same path as
c. Slowly moves in one direction
d. None of these

99) The pressure will be low where the speed of the fluid is

a. 0
b. high
c. low
d. constant

100) A two meter high tank is full of water. A hole is made in the middle of tank .The speed of efflux is

a. $4.9m/s^1$
b. $9.8m/s^1$
c. $4.42\ m/s^1$
d. $3.75\ m/s^1$

101) In case of a vibrating pendulum, the potential energy is maximum at
   a. Mean position
   b. Extreme position
   c. Both a and b
   d. None

102) Specific response of as system which is able to oscillate with a certain period, to an external force acting with the same period is called
   a. TIME period
   b. Wavelength
   c. Resonance
   d. Dopplar effects

103) A simple harmonic oscillator has period of 0.01 second and amplitude of 0.2m. the magnitude of the velocity in m/s at the center of oscillation is
   a. 100
   b. 100 π
   c. 20 π
   d. 40 π

104) A spherical wave front is that which has
   a. A source
   b. A point source
   c. An extended source
   d. None of these

105) We can hear sound around the corner but cannot see because of
   a. Interference
   b. Diffraction
   c. Polarization
   d. Dispersion

106) Huygens's wave theory of light cannot explain
   a. Diffraction
   b. Interference
   c. Polarization
   d. Photoelectric effect

107) The tip of a needle does not give a sharp image. It is due to
   a. Polarization
   b. Interference
   c. Diffraction
   d. none

108) sun has elliptical shape when it rises and sets due to
   a. Refraction
   b. Reflection
   c. Scattering
   d. Dispersion

109) Number of electric lines of force passing through a certain area is knownas
   a. Electric field
   b. Electric flux
   c. Electric intensity
   d. Gravitational field

110) When a ray of light enters a glass slab from air
   a. Its wavelength night increases
   b. Neither Its wavelength nor its frequency changes
   c. its frequency increases
   d. Its wavelength decreases

111) Which of the following statements is correct for any thermodynamic system?
   a. The internal energy changes in all processes
   b. Internal energy and entropy are state functions
   c. The change in entropy can never be 0
   d. The work done in an adiabatic process is always 0

112) Kelvin scale can be applied ar very low temperature because
   a. It is independent of nature of working substance
   b. It is linear over a wide range of temperature
   c. It is based on triple point of water
   d. None

113) Two metal rods A and have their initial length in the ratio 2:3 and coefficients of linear expansion in the ratio of 4:3. When they are heated through same temperature difference the ratio of their linear expansion is
   a. 1:2
   b. 2:3
   c. 3:4
   d. 8:9

114) Melting point of ice is
   a. Increases with increasing pressure
   b. Decreases with increasing pressure
   c. Is independent of pressure
   d. Is proportional to pressure

115) Two metallic wires are lying parallel. If the current In these wires be flowing in same direction, the wires will :

a. Attract each other
b. Repel each other
c. Have no force of attraction or repulsion
d. Remain stationary

116) On moving a charge of 20 coulombs by 2 cm, 2J of work is done then the potential difference between the points is

a. 0.1v
b. 8v
c. 2v
d. 0.5v

117) In a millikan's oil drop experiment the charge on an oil drop is calculated to be 6.35×10^{-19}C. the number of excess electrons on the drop is

a. 3.9
b. 4
c. 4.2
d. 6

118) A charge Q is divided into two parts q and Q-q and separated by a distance R.The force of repulsion between them will be maximum when:

a. q = Q/4
b. q =Q/2
c. q =Q
d. none

119) The color coded resistances are made by

a. High grade silver rods
b. High grade ceramic rods
c. High grade copper rods
d. High grade iron rods

120) A wire of radius r has resistances R.if it is stretched to a wire of r/2 radius, then the resistance becomes

a. 2R
b. 4R
c. 16R
d. Zero

121) A uniform resistance wire of length L and diameter d has a resistance R.Another wire of same material has length, 4L and diameter 2d , the resistance will be

a. 2R

b. R
c. R/2
d. R/4

122) In RLC series circuit when the frequency of AC source is very low the circuit is a /an
a. Resistive circuit
b. Capacitive circuit
c. Inductive circuit
d. Resonant circuit

123) An electron of charge e coulomb passes through a potential difference of V volts. Its energy in 'joules' will be
a. V/e
b. eV
c. e/V
d. V

124) The resistance of voltmeter must have very high resistance because
a. It does not draw any current
b. It is very accurate
c. It does not change circuit current considerably
d. None of these

125) The voltage that is applied across the X plates is usually provided by a circuit that is built in the CRO. It is known as
a. Time base generator
b. Electric base generator
c. X supplier
d. Power supply

126) A voltmeter has resistance of 2000 ohms and it can measure up to 2V. if we want to increase its range to 10V then required resistance in series will be
a. 2000 Ω
b. 4000 Ω
c. 6000 Ω
d. 8000 Ω

127) In A.C. through capacitor circuit the v and q are as
a. V leads q
b. V legs q
c. V and q are in phase
d. None of these

128) At resonance, the phase angle for RLC series resonance circuit equals
a. 0^0
b. 90^0
c. 180^0
d. 270^0

129) An inductor coil when consume no energy is called
   a. A coil
   b. Choke
   c. Toroid
   d. None
130) The color of light by light emitting diode depends upon:
   a. Forward voltage
   b. Reverse current
   c. Forward current
   d. Type of semiconductor
131) Which one of the following physical quantities does not have the dimensions of force per unit area
   a. Stress
   b. Strain
   c. Young's modulus
   d. Pressure
132) The bulk properties of materials such as their mode of fracture can be related to their
   a. Polymerization
   b. Cleavage
   c. Microstructure
   d. Dislocation
133) The bonding in an inert gas crystal is due to
   a. Metallic binding
   b. Covalent bonding
   c. Ionic binding
   d. Vander waals binding
134) A certain transistor has collector current of 10 mA and a base current of 40uA. What is the current gain of the transistor?
   a. 150
   b. 250
   c. 300
   d. None
135) In a full wave rectifier with input frequency 50 Hz the ripple in the output is mainly of the frequency (in Hz).
   a. 25
   b. 50
   c. 100
   d. None
136) If an atom exists in the excited state n=5, the maximum number of transition takes place is :
   a. 6

b. 4
c. 10
d. 3

137) In a common base amplifier, the phase difference between the input signal voltage and output voltage is
a. π
b. π/4
c. π/2
d. 0

138) If we consider electrons and photons of the same wavelength , then they will have the same
a. Velocity
b. Angular momentum
c. Energy
d. Momentum

139) The situation in which then excited state i.e. metastable state contains more number of electrons than the ground is called:
a. Ionized state
b. Stimulations
c. Population inversion
d. All of these

140) The minimum energy in electron volt required to strip off ten times ionized sodium atom (i.e. z=11) of its last electron is
a. 13.6MeV
b. 13.6 x11 eV
c. 13.6 $x11^2$eV
d. 13.6 $x11^3$eV

141) Diameter of an atom is in the range of
a. 0.2m
b. 0.2nm
c. 2x 10^{-10}nm
d. 0.2Pm

142) ΔH neutralization is always
a. +ive
b. –ive
c. 0
d. +ive or -ive

143) The reaction is spontaneous if the cell potential is
a. Positive
b. Negative
c. 0

d. Infinite

144) Mechanical work is especially important in systems that contain
a. Solid-liquid
b. Liquid-liquid
c. Solid –solid
d. Gases

145) Which one has same number of electrons protons and neutrons?
a. N_2 and CO
b. H_2 and O_2
c. N_2 and CO_2
d. H_2 O and H_2S

146) Which of the following is not correct?
a. Dissolution of NH_4Cl in excess of water is an endo thermic process
b. Neutralization is always exothermic
c. The absolute value of enthalpy (H) can be determined experimentally.
d. The heat of reaction at constant volume is denoted by ΔE.

147) Which of the following aqueous solution will be basic?
a. NaCl
b. $Na_2S\ O_4$
c. $Na_2\ CO_3$
d. $FeCl_3$

148) A start of reaction, concentration of reactants are on
a. Higher side
b. Lower side
c. Optimum side
d. Constant

149) Idea of PH and POH was put forward by
a. Gibbs
b. Einstein
c. Sorenson
d. Chadwick

150) The relative atomic mass of chlorine is 35.5. what is the mass of 2 moles of chlorine gas
a. 142g
b. 35.5g
c. 71g
d. 18.75g

151) Which of the following factors will favor the reverse reaction in a chemical equilibrium

a. Increase in concentration of one of the reactants
b. Increase in concentration of one of the products
c. Removal of one of the products regularly
d. None of these

152) Hydrogen gas and iodine vapors combine to form HI at 425 degree centigrade. The same composition of mixture is present if we start with decomposition of HI. It suggests
a. Law of mass action
b. A static equilibrium
c. Irreversible reaction
d. A dynamic equilibrium

153) Rate expression fo NH_3 synthesis is
a. $Kc = X^2/(a-x)(b-x)$
b. $Kc = X^2/v(a-x)$
c. $Kc = 4X^2/v(a-x)$
d. $Kc = 4X^2 v^2/(a-x)(b-3x)^3$

154) Agcl dissolved with concentration ($Z \times 10^{-2}$)ksp will be
a. 3.6×10^{-6}
b. 3.6×10^{-5}
c. 7.2×10^{-6}
d. None

155) Isotopes differ in the
a. Number of atoms
b. Number of neutron
c. Number of protons
d. Number of electrons

156) Which of the following will not change the concentration of ammonia in the equilibrium?

$N_2(g) + 3H_2 \longrightarrow 2\,NH_3$

$\Delta H = -xkj$

a) Increase of pressure
b) Increase of temperature
c) Decrease of volume
d) Addition of catalyst

157) According to le chatelier's principal, adding the heat to a solid and liquid in equilibrium will cause the

a. Amount of solid to decrease
b. Amount of liquid to decrease
c. Temperature to rise
d. Temperature to fall

158) In a reaction

$$A+B \rightleftharpoons C+D$$

The initial concentrations of A and B were 0.9 mol/dm^3 each. At equilibrium the concentration of D was found to be 0.6 mol/dm^3. What is the value of equilibrium constant for the reaction?

a. 8
b. 9
c. 4
d. 3

159) One mole of compound AB reacts with one mole of a compound CD according to the equation AB (g) +CD (g) $\longrightarrow$ AD (g) +CB (g). When equilibrium had been established it was found that ¾ mole each of reactants AB and CD had been converted to AD and CB. There is no; change in volume .The equilibrium constant for the reaction is

a. 9/16
b. 1/9
c. 16/9
d. 9

160) For most of the chemical reactions the rate of reaction

a. Increases as the reaction proceeds
b. Decreases as the reaction proceeds
c. May increase or decrease during reaction
d. Remains constant as the reaction proceeds

161) The rate of reaction A+B $\longrightarrow$ products the given by equation r=K[A][B] if the B is taken in large excess, the order of the reaction would be

a. 2
b. 1
c. 0
d. Unpredictable

162) The Weight of 11.2 litres of co_2 at S.T.P would be

a. 88g
b. 44g
c. 32g
d. 22g

163) With increase in 10degree centigrade the rate of reaction doubles. This increase in rate of reaction is due to

a. Decrease in activation energy of reaction
b. Decrease in the number collisions between reactant molecules
c. Increase in activation energy of reactants
d. Increase in number of effective collisions

164) The time taken for 90% of a 1st order reaction to complete is approximately

a. 1.1 times that of half life
b. 2.2 times that of half life
c. 3.3 times that of half life
d. 4.4 times that of half life

165) The volume occupied by 1.4g of N_2 at S.T.P is

a. 2.24 dm^3
b. 22.4 dm^3
c. 1.12 dm^3
d. 112 cm^3

166) A reaction involving two different reactants can never be

a. Uni-molecular reaction
b. First order reaction
c. Second order reaction
d. Bimolecular reaction

167) According to law of mass action rate of a chemical reaction is proportional to

a. Concentration of reactants
b. Molar concentration of reactant
c. Concentration of products
d. Molar concentrations of products

168) Equal volumes of 0.1M $AgNo_3$ and 0.2 M NaCl are mixed.the concentration of NO^-_3 ions in the mixture will be

a. 0.1M
b. 0.05M
c. 0.2M
d. 0.15M

169) The set of numerical coefficients that balances the chemical equation

$K_2CrO_4+HCl \longrightarrow K_2Cr_2O_7+KCl+H_2O$

a. 1,1,2,2,1
b. 2,2,1,1,1
c. 2,1,1,2,1

d. 2,2,1,2,1

170) The Van't Hoff factor (i) accounts for

a. Degree of solubilisation of solute
b. The extent of dissolution of solute
c. The extent of dissociation of solute
d. The degree of decomposition of solution

Fill in the blanks with appropriate word /phrase (1-5)

171) According to Dr. Daniel , when the companions of the king, saw the king after he had risen from the ground, they said,____ and we'll fight again

a. It is him
b. It is he
c. It is his
d. It is himself

172) When the machines are not lubricated,_____ decreases the speed, putting more load on the lifts.

a. Then
b. Than
c. So
d. It

173) When the chairman became ;very ill his wife began to take more active role in business activities, and many people belived that_____ and the chairman shared his responsibilities.

a. Her
b. She
c. Herself
d. Hers

174) Although most species of cat are black in color, ____ is often pure white.

a. The Iranian cat
b. Nevertheless the Iranian cat
c. That the Iranian cat
d. But the Iranian cat

175) _____, regarded as the world's oldest continuously in habited city, is the main city of Punjab.

a. The Multan
b. Multan being
c. Multan

d. That Multan

Read the paragraph carefully and give answer below:

The history of literature really began was earliest of the arts. Man danced for joy round his primitive camp fire after the defeat and slaughter of his enemy. He yelled and shouted as he danced and gradually the yells and shouts become coherent and caught the measure of the coherent and caught the measure of the dance and thus the first war song was sung. As the idea of God developed prayers were framed. The songs and prayers became traditional and were repeated from one generation to another generation, each generation adding something of its own.

As man slowly grew more civilized, he was compelled to invent some method of writing by three urgent necessities. There were certain things that it was dangerous to forget and which, therefore, had to be recorded. It was often necessary to protect one's property by making tools, cattle and so on, in some distinctive manner. So man taught himself to write and having learned to write purely for utilitarian reasons he used this new method for preserving his war songs and his prayers. Of course, among these ancient peoples, there were only a very few individuals who learned to write, and only a few could read what was written

176) Before man invented writing
   a. Literature was passed on by word of month
   b. Prayers were considered literature
   c. Literature was just singing and dancing
   d. There was no literature

177) As for the war songs and prayers each generation
   a. Added something of its own to the stock
   b. Blindly; repeated the songs and prayers
   c. Composed its own songs and prayers
   d. Repeated what has handed down to it

178) The first war song
   a. Was inspired by God
   b. Developed spontaneously
   c. Was a song traditionally handed down
   d. Was composed by leading dancers

179) The war song evolved out of
   a. Creative inspiration
   b. There was no literature
   c. Artistic urge
   d. Yelling and shouting

180) Man invented writing because he wanted
   a. To be artistic
   b. To write war song
   c. To write literature

d. To record and communicate

181) Iron: blacksmith (analogy)

a. Cotton : cloth
b. Food :gourmet
c. Clay :potter
d. Silver; miner

182) Fish : scales (analogy)

a. Book : papers
b. Snakes : fangs
c. Birds : feather
d. Car : wheels

183) Nose : smell (analogy)

a. Tongue : speak
b. Foot : hit
c. Hand : finger
d. Teeth : chew

184) Collage : images (analogy)

a. Cement : building
b. Medley : songs
c. furniture : sofa
d. Grains : tree

185) Sketch : artist (analogy)

a. Secret : confident
b. Cell : prisoner
c. Palette : painter
d. Draft :writer

186) Fragile : (synonyms)

a. Strong
b. Grave
c. Weak
d. Showy

187) Esoteric : (synonyms)

a. Fair
b. Popular
c. Alluring
d. Private

188) Synchronized : (antonym)

a. Arrhythmic

b. Resonating
c. Harmonized
d. Brought into accord

189) Chaotic : (antonym)
a. Immersive
b. Orderly
c. Hectic
d. Steady

190) Bombastic : (antonym)
a. Creative
b. Selfish
c. Astounded
d. Polite

191) The current president of European union belong to which country
a. Greece
b. Austria
c. Germany
d. Latavia

192) When did nuclear scientist Dr. Abdul Qadeer Khan dissolve his political party tehreek-i-tahafuz-i- Pakistan?
a. 27 jan,2014
b. 18 jan,2014
c. 1 jan,2014
d. 10 jan,2014

193) Who visited Pakistan and agreed to enhance their defense cooperation and support each other's position on regional issues, including Syria and Afghanistan?
a. Saudi foreign minister
b. American foreign minister
c. German foreign minister
d. French foreign minister

194) The international day of peace sometime unofficially known as world peace day, is observed annually on:
a. 21st September
b. 23rd September
c. 12th October
d. None of these

195) International day for the elimination of violence against racial discrimination is observed annually on:

a. 23rd may
b. 21st march
c. 1st march
d. None of these

196) The 'KASHAF-UL-MAHJUB' was written by?

a. HAZRAT DATA GUNJ BUKSH(R.A)
b. Maulana Altaf Hussain Hali
c. Maulana Shibli Nomani
d. Maulana Zakaullah

197) Which are five international languages of the world that has been classified as the classical languages?

a. Chinese , Sanskrit, Arabic, Russian, and Latin
b. Chinese , French , English , Greek , and Latin
c. Chinese , Sanskrit, Arabic, Greek, and Latin
d. None of these

198) In which nuclear plant of japan did the radioactive water leak of 100 tones took place?

a. Ikata nuclear power plant
b. Kashiwazaki ,karima nuclear power plant
c. Fukushima nuclear power plant
d. Hamaoka nuclear power plant

199) The book titled "the Meaning of success: Insight from women" has been released by which world famous university to address the decline of women professors in the university?

a. Oxford university
b. London school of economics
c. Cambridge university
d. Harvard university

200) Which player of England is only bats man to achieve the rare feat? He made 333 and 123 against India at lord's in 1990?

a. Graham Gooch
b. Ricky pointing
c. Mathew
d. Gilchrest