KIPS PREPARATIONS

Note: Four possible answers A, B, C and D to each question are given. The choice which to think is correct, fill that circle in front of that question with marker or ink. Cutting or filling two or more circles will result in zero mark in that question.

1. Sphincter muscles present at junction of.
A) Urethra and urinary bladder B) Ureter and urethra
C) Ureter and urinary bladder D) Urethra and penis

2. Which of the followings have ability of excitation?
A) Cardiac muscles and neurons B) Cardiac muscles and skeletal muscles
C) Skeletal muscles and neurons D) All of the above

3. Which of the following animals can regulate body heat round the clock?
A) Bats B) Flying insects C) Invertebrates D) Humming bird

4. Synovial joints do not include:
A) Hinge joints B) Ball and socket joints C) Fibrous joints D) All of these

5. Which of the followings represent some special type of invagination?
A) Henson's node B) Primitive streak C) Neural tube D) Blastocoel

6. Yellow cytoplasm give rise to:
A) Notochord B) Gut C) Muscle cells D) Epidermis

7. Type of cell division in which amount of DNA reduce to half but number of chromosomes remains same:
A) Meiosis I and Meiosis II B) Mitosis and Meiosis I
C) Meiosis II and Mitosis D) Mitosis only

8. Short stature, Webbed neck, without ovaries and complete absence of germ cells are symptoms of
A) XXX B) XXY C) XYY D) XO

9. The branch between dorsal root ganglion and spinal cord is called:
A) Peripheral branch: dendron B) Central branch: dendron
C) Central branch: axon D) Peripheral branch: axon

10. Maximum thickening of endometrium will be observed in _____ phase of menstrual cycle:

A) Proliferative B) Luteal C) Menses D) Follicular

11. In Meselson and Stahl experiment appearance of hybrid after first round of replication that DNA replication may be:

A) Conservative B) Semiconservative

C) Semiconservative or dispersive D) Dispersive

12. Phenotypic and genotypic ration in incomplete dominance is respectively

A) 1:2:1, 3:1 B) 3:1, 1:2:1 C) 1:2:1, 1:2:1 D) 9:3:3:1, 3:1

13. Which of the following plasmid has antibiotic resistance genes for tetracycline?

A) pSC 101 B) pBR 322 C) pSC 101 and pBR322 D) Eco RI

14. All of the followings are points of Darwin's theory except

A) Genetic drift B) Over production C) Survival of the fittest D) Struggle for existence

15. Which of the following is more stable in ecosystem?

A) Food chain B) Food web C) Tropic level D) None of these

16. Soil of _____ forest greyish brown in color:

A) Tropical rain forest B) Temperate deciduous forests

C) Coniferous alpine forests D) Coniferous boreal forests

17. Which of the following is not correct regarding Eutrophication?

A) Increase growth of blue green algae B) Decrease Biological oxygen demand

C) Form scum D) Life rich zone

18. Which of the followings produces concentration urine?

A) Cortical nephrons B) Juxta medullary nephrons

C) Pelvis D) Both cortical and juxta medullary nephrons

19. Which of the followings not bone of axial skeleton?

A) Sternum B) Scapula C) Ribs cage D) Cranium

20. Stones of phosphates are found in:

A) Pelvis B) Medulla C) Cortex D) Urinary bladder

21. All of the followings undergo changes during muscle contraction except:
A) A Band B) H Zone C) I band D) Z line

22. Anterior end of primitive streak occupied by:
A) Ectodermal cells B) Mesodermal cells C) Endodermal cells D) Hypodermal cells

23. How many nucleus/nuclei present in cap of *Acetabularia mediterranea*.
A) One B) Two C) Three D) None of these

24. Type of cell division in which amount of DNA and chromosomes reduce to half of parental cell:
A) Meiosis I and Meiosis II B) Mitosis and Meiosis I
C) Meiosis II and Mitosis D) Meiosis I only

25. Chances of Down Syndrome in 50 years old female?
A) 1/1000 B) 2/100 C) 3/1000 D) 3/100

26. The branch between dorsal root ganglion and receptor is called:
A) Peripheral branch: dendron B) Central branch; dendron
C) Central branch: axon D) Peripheral branch: axon

27. Which of the following phase will be longest in abnormal menstrual cycle?
A) Menses B) Leuteal C) Follicular D) Secretory

28. Newly synthesize DNA strand in discontinuous replication will use ___ strand of parent as template?
A) 3'——5' B) 5'——5'
C) 5'——3' D) 3'——3'

29. Number of genotypes of round yellow in F2 progeny in Mandle's law of independent assortment?
A) 9 B) 4 C) 3 D) 1

30. Which of the following true about Taq polymerase:
A) Temperature insensitive B) Obtain from *Treponema pallidum*
C) Temperature sensitive D) Obtain from Virus

31. Which of the following is strong and visual evidence in favor of evolution?
A) Molecular biology B) Biochemistry C) Paleontology D) Population genetics

32. Which of the following convert nitrite into nitrate?
A) Nitrobacter B) Nitrosomonas C) Rhizobium D) Nitrifying

33. Northern coniferous forests are called _____

A) Temperate B) Taiga C) Thar D) Thal

34. All are benefits of forests except?

A) Rain B) Increase soil erosion C) Increase biodiversity D) Decrease CO_2

PHYSICS PORTION OF PRE-EVALUATION TEST FOR BOARD EXAMINATION

Q.1 Mass of alpha particle is

A) 4 times of mass of proton
B) 7000 times of mass of electron
C) 4 times of mass of electron
D) Both A and B

Q.2 A charge of 10 C moves through a potential difference of 5 V in uniform electric field, potential energy is

A) 2 J
B) 50 J
C) 5 J
D) 50 eV

Q.3 Two parallel wires carrying currents in the opposite directions

A) Repel each other
B) Have no effect upon each other
C) Attract each other
D) They cancel out their individual magnetic fields

Q.4 Which of the following fundamental particle is heaviest?

(A) Electron
(B)muon
(C) Neutrino
(D) Meson

Q.5 The electric field at a distance of 10 cm from an isolated point particle with a charge of 2×10-9C is:

A) 1.8N/C
B) 18N/C
C) 180N/C
D) 1800N/C

Q.6 We have 3 resistors having resistances R1>R2>R3 . If they are joined in series then the equivanent resistance Re is

A) Re<R1
B) Re≤R3
C) Re≥R1
D) Re>R1

Q.7 When Cu and Ge are cooled to – 150 °C Then resistance of Cu ___ and that of Ge ____

A) Increases, increases
B) Increases, decreases
C) Decreases, decreases
D) Decreases, increases

Q.8 Weber ampere per metre is equal to

A) Joule
B) Watt
C) Newton
D) Henry

Q.9 Kirchhoff's first law is manifestation of

A) Law of conservation momentum
B) Law of conservation mass
C) Law of conservation of energy
D) Law of conservation of charge

Q.10 There is a region where both electric and magnetic fields are parallel. An electron is also projected parallel to both fields. Speed of electron will

A) Increase
C) Decrease
B) Remain same
D) electron will move in circular path

Q.11 A particle carrying a charge of 5e falls through a potential difference of 25V. What would be energy acquired by the particle in 'J'.

A) 125×10^{-19} J
B) 1.6×10^{-19} J
C) $125 \times 1.6 \times 10^{-19}$ J
D) 125 J

Q.12 When a charged particle moves through a magnetic field, it suffers a change in

A) Direction
B) Speed
C) Energy
D) No change

Q.13 How many electrons will have a charge of two coulomb?

A) 6.2×10^{18}
B) 6.2×10^{19}
C) 12.5×10^{18}
D) 5.2×10^{19}

Q.14 In which of the following sequences are the electromagnetic waves in decreasing order of frequency

(a) Ultraviolet, infrared, x-rays, radio
(b) Radio, infrared, visible, ultraviolet
(c) γ-rays, x-rays, infrared, radio
(d) None of these

Q.15 Which part of a transistor is doped the heaviest to supply charge carries?

(A) Emitter (B) Base

(C) Collector (D) None of these

Q.16 When silicon is doped with gallium atom, gallium is referred to as :

(A) Donor atom (B) Acceptor atoms

(C) Neither (D) Both A & B

Q.17 Calculate the energy of a photon of frequency 3.0×10^{15} Hz, ($h = 6.63 \times 10^{-34}$ Js):

A) 19.89×10^{-19} J B) 1.89×10^{-19} J

C) 11.89×10^{-19} J D) 19.89×10^{-19} J

Q.18 Which light photon has the last momentum

(A)Red B) yellow C) blue D) green

Q.19 The inductive reactance of an inductor of $\frac{1}{\pi}$ H at 50 Hz frequency is

(a) $\frac{50}{\pi}\ \Omega$ (b) 100 Ω (c) $\frac{\pi}{50}\ \Omega$ (d) 50 Ω

Q.20 The device which coverts A.C into D.C is called

A) Oscillator B) Rectifier

C) Transducer D) Diode

Q.21 In Compton scattering, the Compton sift is equal to Compton's wavelength if angle of scattering is

(A) 45° (B) 60° (C) 90° (D) 180°

Q.22 Impedance of a circuit does not depend on

A) current B) frequency

C) Resistance D)Capacitan

Q23 Electrons of mass m and charge e are accelerated through a potential difference V and strike the target.The maximum speed of these electrons is

A) $\frac{eV}{m}$ C) $\frac{eV^2}{m}$

B) $\sqrt{\frac{2eV}{m}}$ D) $\sqrt{\frac{eV}{m}}$

Q.24 Which one can be used as a moderator in a nuclear reactor
A) Boron rods
B) Cadmium rods
C) graphite
D) Any of A and B

Q.25 Lyman series of H-atom lie in the _____ region of EM spectrum
A) visible
B) infrared
C) ultraviolet
D) red

Q.26 How many neutrons are there in the nuclide $^{68}_{30}Zn$?
(a) 22
(b) 30
(c) 38
(d) 68

Q.27 Half-life of radium is 1600 years. Which of the following is the fraction of a sample of radium that would remain undecayed after 6400 years?
A) 1/2
C) 1/4
B) 1/8
D) 1/16

Q.28 During a negative β-decay
A) An atomic electron is ejected
B) A neutron in the nucleus decays emitting an electron
C) An electron which already present with in the nucleaus is ejected
D) A part of binding energy of nuclei is converted into electron

Q.29 An atom bomb is a
A) Controlled fission reaction
B) Controlled fusion reaction
C) Uncontrolled fission reaction
D) Uncontrolled fusion reaction

Q.30 The particles that experience the strong nuclear force are
A) Quarks
B) Hadrons
C) Leptons
D) Positrons

Q 31 When 2 Ω , 4 Ω and 6 Ω resistors are connected in parallel, their resultant equivalent resistance will be
(A) 12 Ω
(B) 11/12 Ω
(C) 12/11 Ω
(D) Data is insufficient

Q 32 Specific resistance of a wire at a given temperature depends upon
(A) Area of cross-section
(B) Length
(C) Nature of material of conductor
(D) Both length and area

Q 33 Charge on electron was measured by Millikan in
(A) 1809
(B) 1990
(C) 1910
(D) 1909

Note: Four possible answers A, B, C and D to each question are given. The choice which to think is correct, fill that circle in front of that question with marker or ink. Cutting or filling two or more circles will result in zero mark in that question.

CHEMISTRY PORTION OF PRE EVALUATION TEST FOR BOARD EXAMINATION

1. A characteristic that is unique to the alkali metals is
   A) Their metallic character
   B) The increase in atomic radius with increasing atomic number
   C) The decrease in ionization energy with increasing atomic number
   D) The noble gas electron configuration of the singly charged positive ion

2. Which of the following series of elements is listed in order of increasing atomic radius
   A) Na, Mg, Al, Si
   B) C, N O, F
   C) O, S, Se, Te
   D) I, Br, Cl, F

3. Chlorine acts as a bleaching agent only in presence of
   A) Sunlight
   B) Oxygen
   C) Dryair
   D) Moisture

4. The electronic configurations of some elements are given below. The element with highest electron affinity is
   A) $1s^2, 2s^2, 2p^3$
   B) $1s^2, 2s^2, 2p^4$
   C) $1s^2, 2s^2, 2p^5$
   D) $1s^2, 2s^2, 2p^2$

5. Oxide of beryllium is
   A) Acidic
   B) Basic
   C) Amphoteric
   D) Neutral

6. Among the following series of transition metal ions, the one where all metal ions have $3d^2$ electronic configuration is
   A) $Ti^+, V^{4+}, Cr^{6+}, Mn^{7+}$
   B) $Ti^{2+}, V^{3+}, Cr^{4+}, Mn^{5+}$
   C) $Ti^{3+}, V^{2+}, Cr^{3+}, Mn^{4+}$
   D) $Ti^{4+}, V^{3+}, Cr^{2+}, Mn^{3+}$

7. Which one of the following characteristics of the transition metal is associated with their catalytic activity?
   A) Variable oxidation states
   B) Color of hydrated ions
   C) Paramagnetic behavior
   D) High enthalpy of atomization

8. Colour in transition metal compounds is attributed to
   A) Small size metal ions
   B) Absorption of light in UV region
   C) Complete (n, s) subshell
   D) Incomplete (n-1)d subshell

9. HNO_3 is prepared commercially by
   A) Catalytic Oxidation of NH_3
   B) Direct combustion of N_2 and O_2
   C) Heating KNO_3 with concentrate H_2SO_4
   D) None of these

10. Which of the following compounds would be considered an electrophilic reagent
    A) NH_3
    B) Br_2
    C) CH_3OH
    D) NH_2OH

11. Which of the following compound pairs are functional group isomers
    A) $CH_3CH_2OCH_3$ and CH_3CH_2CHO
    B) CH_3CH_2CHO and $CH_3CH_2CH_2OH$
    C) $CH_3COCH_2CH_3$ and $CH_3CH_2COCH_3$
    D) $CH_3CH_2CH_2CHO$ and $CH_3COCH_2CH_3$

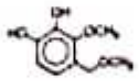
12. In order for a reagent to behave as a nucleophile it must have,
A) An overall positive charge
B) An overall negative charge
C) A non-bonding electron pair
D) A nitrogen or sulfur atom

13. Which of the following compounds has no isomer
A) $CH_3CH_2CH_2Cl$
B) CH_3CHO
C) $CH_2{=}CHCl$
D) $ClCH_2CH_2Cl$

14. Which branched chain isomer of the hydrocarbon with molecular mass 72amu gives only one isomer of mono substituted alkyl halide
A) Tertiary butyl chloride
B) Neopentane
C) Isohexane
D) Neohexane

15. The compound having only primary hydrogen atoms is
A) Isobutene
B) Cyclohexane
C) 2,3-dimethylbutene
D) Propyne

16. In the following compound, the total number of sp^3 hybridized carbon atoms is equal to



A) Three
B) Five
C) Six
D) Four

17. HBr reacts with $CH_2 = CH - OCH_3$ under anhydrous conditions at room temperature to give
A) CH_3CHO and CH_3Br
B) $BrCH_2CHO$ and CH_3OH
C) $BrCH_2 - CH_2 - OCH_3$
D) $H_3C - CHBr - OCH_3$

18. Which one of the following is not true about benzene
A) Heat of hydrogenation of benzene is less than the theoretical value
B) There are three carbon-carbon single bonds and three carbon-carbon double bonds
C) It forms only one type of monosubstituted product
D) The bond angle between carbon-carbon bonds is 120°

19. The species responsible for nitration and sulphonation by nitric acid conc. H_2SO_4 and fuming H_2SO_4 are
A) NO_2 and SO_3
B) NO_2^+ and SO_3
C) NO^+ and SO_2
D) NO_2 and SO_2

20. Light initiates the following reaction
alkane + chlorine → chloroalkane + hydrogen chloride
What happens to chlorine in this photochemical reaction
A) Heterolytic fission to give an electrophile
B) Homolytic fission to give an electrophile
C) Heterolytic fission to give a free radical
D) Homolytic fission to give a free radical

21. The compound 1,2-dichloroethene, $C_2H_2Cl_2$, has been used as an industrial solvent for a number of compounds including fats, camphor and caffeine
Which statement about this compound is incorrect
A) The compound can be catalytically hydrogenated
B) The compound is a planar molecule
C) The compound shows cis-transisomerism
D) The compound shows optical isomerism

22. What is reagent Y in the following reaction $C_2H_5Cl + Y \rightarrow C_2H_5OH + KCl$
A) $KHCO_3$
B) Alcoholic KOH
C) Aqueous KOH
D) K_2CO_3

23. Which statement is TRUE with respect to an S_N2 reaction
A) A good leaving group is a strong base
B) A good leaving group is a weak base
C) A leaving group must be negatively charged
D) A leaving group must be a halide

24. Which of the following statements about alcohols is incorrect
A) Tertiary alcohols have lower boiling points than primary alcohols with an equivalent molecular weight
B) Alcohols undergo nucleophilic substitution
C) Tertiary alcohols undergo dehydration more readily than primary alcohols
D) Tertiary alcohols are metabolized in the body to ketones

25. When phenol is treated with an excess of bromine water, it gives
A) 2,4,6-tribromophenol
B) 2,4-dibromophenol
C) o- and p-bromophenols
D) m-bromophenol

26. The ionization constant of phenol is higher than that of ethanol because
A) Phenoxide ion is a stronger base than ethoxide ion
B) Phenoxide ion is stabilized through delocalization of electron
C) Phenoxide ion is less stable than ethoxide ion
D) Phenoxide ion is bulkier than ethoxide ion

27. In the fermentation of starch solution to ethyl alcohol requires
A) Diastase
B) Invertase
C) Carbonic anhydrase
D) Aldolase

28. Nitric acid when reacted with phenol produces a mixture of ortho and para Nitrophenols. Picric acid can only be produced at
A) Normal temperatures and dil. HNO_3
B) High temperatures and dil. HNO_3
C) High temperatures and conc. HNO_3
D) Low temperatures and conc. HNO_3

29. Esterification is accomplished by a reaction of an alcohol and carboxylic acid. Which of the combination of alcohol and carboxylic acid produces isopropyl propanoate

Alcohol	Acid
A) $CH_3CH_2CH_2OH$	CH_3CH_2COOH
B) $CH_3CH(OH)CH_3$	CH_3CH_2COOH
C) CH_3CH_2OH	CH_3COOH
D) CH_3OH	$CH_3CH(COOH)CH_3$

30. Which of the following statements is not correct
A) Aldehydes and ketones undergo nucleophilic addition
B) Aldehydes and ketones undergo electrophilic substitution
C) Aldehydes and ketones contain polar carbonyl group
D) Lower members of aldehydes and ketones are soluble in water due to hydrogen bonding

31. Acetaldehyde gives orange coloured precipitate on treatment with
A) 2,4-DNPH
B) $NaHSO_3$
C) NH_4OH
D) NaOH

32. The correct order of decreasing acidic strength of
A. trichloroacetic acid B. trifluoroacetic acid C. acetic acid D. formic acid is
A) A > B > C > D
B) A > C > B > D
C) B > A > D > C
D) B > D > C > A

33. Carboxylic acids may not be prepared by the oxidation of
A) Primary alcohols
B) Ethers
C) Aldehydes
D) Alkenes