NEET PREVIOUSLY ASKED QUESTIONS

PART 1

Q.1 Hydrolytic enzymes are abundantly found in which cell organelles -
(1) Ribosome
(2) Lysosome
(3) Oxysome
(4) Endoplasmic reticulum

Q.2 Which of the following is the site of lipid syntesis -
(1) Rough ER (2) Smooth ER
(3) Golgi bodies (4) Ribosome

Q.3 Ribosomes are produced in -
(1) Nucleolus (2) Cytoplasm
(3) Mitochondria (4) Golgibody

Q.4 Which of the following pair lack the unit membrane -
(1) Nucleus & E.R.
(2) Mitochondria & Chloroplast
(3) Ribosome & nucleolus
(4) Golgi body & lysosome

Q.5 Golgybody is concerned with -
(1) Respiration (2) Secretion
(3) Excertion (4) Degradation

Q.6 Which of the following occurs more than one and less than five in achromosome-
[CPMT - 2002]
(1) Chromatid (2) Chromomere
(3) Centromere (4) Telomere

Q.7 The cells without nuclei are present in -
(1) Vascular cambium
[RPMT - 2002]
(2) Root hair
(3) Companion cell
(4) Members of seive tube

Q.8 Plant with minimum number of chromosomes is -
[RPMT - 2004]

(1) Haplopappusgracilis
(2) Salix tetrasperma
(3) Poa
(4) Cynodon

Q.9 Heteropycnosis is exhibited by -
(1) Autosome [RPMT - 2004]
(2) Chromatoid body
(3) Nucleolus
(4) Sex - chromosome

Q.10 Best material for the study of mitosis in laboratory - [CPMT 2002]
(1) Anther (2) Root tip
(3) Leaf tip (4) Ovary

Q.11 Mitosis occurs in - [RPMT 2002]
(1) Haploid individuals
(2) Diploid individuals
(3) Both (1) & (2)
(4) IN bacterial only

Q.12 The number of DNA in chromosome at G_2 state of cell cycle - [RPMT 2002]
(1) One
(2) Two
(3) Four
(4) Eight

Q.13 Which is correct for meiotic metaphase-I [RPMT 2002]
(1) Bivalents are arranged at equator
(2) Univalents are arranged at equator
(3) Non-homologus chromosomes forms pair
(4) Spindle fibers are attached at chromomere

Q.14 In which stage of meiosis the chromosome number reduces to half - [RPMT 2004]
(1) Anaphase-I (2) Anaphase-II
(3) Telophase-I (4) Telophase-II

Q.15 Chiasmata are formed as a result of -

[RPMT 2004]

(1) Exchange of parts of paired homologus chromosome

(2) Exchange to part of unpaired non-homologus chromosome

(3) Duplication of parts of paired homologus chromosome

(4) Loss of parts of unpaired non-homologus chromosome

Q.16 If the n = 16 in plant cell then how many possible bivalent in metaphase - I of meiosis - [RPMT 2007]

(1) 32 Bivalents (2) 16 Tetravalents

(3) 16 Bivalents (4) 32 Bivalents

Q.17 The main function of lysosome is - [UTTARANCHAL PMT 2004]

(1) Sexual reproduction

(2) Extracellular digestion

(2) Intracellular digestion

(4) Both (2) and (3)

Q.18 Which of the following maintains continuity between the water and lipid phases inside and outside the cells - [UTTARANCHAL PMT 2004]

(1) Cell wall

(2) Lecithin

(3) Cell vacuole

(4) Cell membrane of woody plants

Q.19 The membrane surrounding cell vacuole is called - [UTTARANCHAL PMT 2004]

(1) Tonoplast

(2) Cell wall

(3)plasma membrane

(4) cell membrane

Q.20 The diagrammatic representation of chromosomes is known as - [UTTARANCHAL PMT 2006]

(1) idiogram (2) karyotype

(3) holotype (4) homotype

Q.21 Thread like structures that are composed of the nuclear DNA of eukaryotic cells and are the carrier of genetic information. These structures were known as chromosomes. The term "chromosome" was given - [UTTARANCHAL PMT 2006]

(1) Waldeyer (2) Balbiani

(3) Purkinje (4) Sutton

Q.22 Chromosomes, present in prolonged prophase in the salivary glands of Drosophila are - [UTTARANCHAL PMT 2006]

(1) Polytene chromosome

(2) B-Chromosomes

(3) Lampbrush chromosome

(4) supenumerary chromosomes

Q.23 Chromosomes at anaphase are of various shapes due to position of- [UTTARANCHAL PMT 2006]

(1) Setellite

(2) Chromonema

(3) Centromere

(4) DNA

Q.24 The term 'nucleosome' was given by oudetolins' and olins called these particle as "nu" particles which histone is absent in nucleosome - [UTTARANCHAL PMT 2006]

(1) H_1 (2) H_2

(3) H_3a (4) H_4

Q.25 Nucleosome given beaded appearance to chromosome. They help in packing of DNA in the chromosomes. A nucleosome has - [UTTARANCHAL PMT 2006]

(1) about 2 turns of DNA

(2) 8 histone molecules of 4 types

(2 mols each of H_2 a, H_2b, H_3 and H_4)

(3) 200 nitrogen base pairs

(4) all of the above

Q.26 Salivary glands chromosome were discovered by Balbiani (1881) from salivary glands of larva of - [UTTARANCHAL PMT 2006]

(1) Chironomous (2) Drosophila

(3) Silk worm (4) Lac worm

Q.27 In SAT chromosome, SAT (Satellite) is terminal part of chromosome beyond secondary constriction. It contains - [UTTARANCHAL PMT 2006]

(1) DNA
(2) RNA
(3) repetitive DNA
(4) None of these

Q.28 Material exchange through nucleopores is faciliate by - [UTTARANCHAL PMT 2006]

(1) Lamina propria (2) lipid layer
(3) Nucleoplasmin (4) Nucleoles

Q.29 Centriole is - [UTTARANCHAL PMT 2006]

(1) Microtubuler and membraneless
(2) Absent in Amoeba, red algae, blue-green algae conifers and angiosperm and made up of peripheral Triplet microtubuls
(4) Basically locomotary and their role in spindle formation is secondary
(4) All of the above

Q.30 Association of m-RNA with several ribosomes is called – [West Bengal 2007]

(1) Polysome
(2) Informosome
(3) Both (1) and (2)
(4) None of these

Q.31 G_2 phase comes between - \[West Bengal 2007]

(1) S and M phase
(2) G_1 and S phase
(3) S and D phase
(4) G_1 and M phase

Q.32 Lampbrush chromosome is found in - [Wes Bengal 2007]

(1) Oocyte of amphibians

(2) Salivary gland of mosquito
(3) Silk gland of silkworm
(4) None of the above

Q.33 Prokaryotic ribosomes are - [West Bengal 2007]
(1) 50s (2) 60s
(3) 70s (4) 80s

Q.34 Mesosomes of prokaryotes perform function similar to - [West Bengal 2007]
(1) Mitochondria (2) Peroxysomes
(3) Lysosomes (4) Ribosomes

Q.35 RER is rough bucause of the presence of - [West Bengal 2007]
(1) Volutin granules on its
(2) Ribosomes on its surface
(3) Lysosomes on its surface
(4) Mitochondria on its surface

Q.36 Crossing over takes place between - [West Bengal 2007]
(1) 2 sister chromatids
(2) 2 non-sister chromatids
(3) 3 homologous chromosomes
(4) 4 non-homologous chromosomes

Q.37 Cellular recognition is fasciliated by components of plasmamembrane. These components are generally - [West Bengal 2007]
(1) Protein molecules alone
(2) Lipid molecules alone
(3) Both lipid and protein molecules
(4) Gloycolipids and glycoproteins

Q.38 The significance of meiosis lies in - [C.G. PMT 2004]
(1) Maintaining constancy in the number of chromosomes in an organism
(2) Production of genetic variability in the population of species
(3) Reduction of the diploid number of chromosomes to haploid
(4) All of the above

Q.39 Which among the following can be seen only under the electron microscope -
[C.G. PMT 2004]
(1) Chloroplast (2) Ribosome
(3) Leucoplast (4) Nucleus

Q.40 A mature plant cell has -
[C.G. PMT 2004]
(1) Cell wall and protoplasm
(2) Protoplasm and vacuole
(3) Vacuole and cell wall
(4) Protoplasm cell wall and vacuole

Q.41 The larger sub-unit in 80 s ribosome is -
[C.G. PMT 2004]
(1) 50 s (2) 60 s
(3) 40 s (4) zero s

Q.42 Golgi bodies are absent in -
[C.G. PMT 2004]
(1) Plants (2) Bacteria
(3) Animals (4) Eukaryotic cells

Q.43 Endoplasmic reticulum is more developed in - [C.G. PMT 2004]
(1) Green cells (2) Young cells
(3) Mature cells (4) Bacteriophage

Q.44 Mitochondria are related to -
[C.G. PMT 2004]
(1) Prokaryotic cell (2) Plasmids
(3) Prion (4) Virus

Q.45 The main function of lysosomes is -
[C.G. PMT 2004]
(1) Digestion
(2) Replication
(3) Translation
(4) Translocation

Q.46 Which of the following has a single membrane - [C.G. PMT 2004]
(1) Ribosome (2) Peroxisome

(3) Nucleus (4) Centrosome

Q.47 L-shaped chromosomes are called - [C.G. PMT 2004]

(1) Sex-chromosome
(2) Acrocentric
(3) Telocentric
(4) Sub-metacentric

Q.48 Pairing of homologous chromosomes takes place in - [C.G. PMT 2004]

(1) Pachytene
(2) Zygotene
(3) Diplotene
(4) None of these

Q.49 How many meiotic divisions will be necessary to produce two hundred pollen grain - [C.G. PMT 2004]

(1) 100 (2) 99
(3) 50 (4) 200

Q.50 Who coined the term chromosome - [C.G. PMT 2004]

(1) Balbiani (2) Waldeyer
(3) Sutton (4) Purkinje

Q.51 A chromosome having sub-terminal centromere is calle [C.G. PMT 2004]

(1) Telocentric (2) Acrocentric
(3) Metacentric (4) Sub-metacentric

Q.52 Which is the character of mitosis - [C.G. PMT 2005]

(1) Leptotene
(2) Zygotene
(3) Pachytene
(4) None of the above

Q.53 How many types of cells are known - [C.G. PMT 2005]

(1) One (2) Two
(3) Three (4) Four

Q.54 In which mitosis does-not occur -

[C.G. PMT 2005]

(1) Green algae
(2) Fungi
(3) Bacteria
(4) Higher plants

Q.55 A mature plant cell has - [C.G. PMT 2005]

(1) Cell wall
(2) Vacuole
(3) Protoplasm
(4) All of the above

Q.56 Repulsion of homologous chromosomes takes place in - [C.G. PMT 2005]

(1) Zygotene (2) Leptotene
(3) Diakinesis (4) Pachytene

Q.57 In eukaryotic cell the type of ribosome is -[C.G. PMT 2005]

(1) Only 70 s
(2) Only 80 s
(3) 70 s and 80 s both
(4) Only 50 s

Q.58 Synthesis of DNA takes place in - [C.G. PMT 2005]

(1) G_1
(2) G_2
(3) S
(4) None of these

Q.59 The genetic material of procaryotic cells is called - [C.G. PMT 2005]

(1) Nucleus (2) Nucleolus
(3) Nucleoid (4) Centrosome

Q.60 Which organelle of plant cells secrets polysaccharide to make cell walls - [C.G. PMT 2005]

(1) Golgi-bodies (2) Lysosome
(3) Mitochondria (4) Chloroplast

Q.61 RNA contains which of the following base, in place of Thymine of DNA - [C.G. PMT 2005]

(1) Thymine

(2) Uracil
(3) Adenine
(4) None of these

Q.62 The main function of lysosomes is in - [C.G. PMT 2005]
(1) Only intracellular digestion
(2) Only Extracellular digestion
(3) Both intracellular and extracellular digestion
(4) None

Q.63 Eukaryotic cell has - [C.G. PMT 2005]
(1) One chromatin fiber
(2) Definite nucleus
(3) Incipient nucleus
(4) None of these

Q.64 Four daughter cells formed after meiosis are - [C.G. PMT 2005]
(1) Genetically similar
(2) Genetically different
(3) Anucleate
(4) Multinucleate

Q.65 The synthesis of lipids and proteins is associated with - [C.G. PMT 2005]
(1) Endoplasmic reticulum
(2) Miochondria
(3) Chloroplast
(4) Lysosomes

Q.66 Cell theory was proposed by - [C.G. PMT 2005]
(1) Schleiden and Schwann
(2) Watson and Crick
(3) Drawin and Wallace
(4) Mendel and Morgan

Q.67 During meiosis the division of centromere takes place in - [C.G. PMT 2005]
(1) First prophase
(2) First anaphase
(3) Second metaphase
(4) Second anaphase

Q.68 Which one of the following is not found in animal cell - [C.G. PMT 2005]
(1) Nucleus (2) Golgi bodies
(3) Chloroplast (4) Mitochondria

Q.69 Unit membrane consists of - [C.G. PMT 2005]
(1) Lipid + Sugar + Lipid
(2) Protein + Lipid + Protein
(3) Lipid + Protein + Lipid
(4) Protein

Q.70 Principal constituents of chromosomes are - [C.G. PMT 2005]
(1) DNA + Protein (2) DNA
(3) RNA (4) tRNA

Q.71 Shape of chromosome is determined by -[C.G. PMT 2005]
(1) Telomere (2) Centromere
(3) Chromomere (4) Centrosome

Q.72 In a bacterial cell the respiratory enzymes are found in - [C.G. PMT 2005]
(1) Mitochondria
(2) Chondrisome
(3) Mesosome
(4) Centrosome

Q.73 The cell wall of Spirogyra is made up of - [C.G. PMT 2005]
(1) Cellulose (2) Suberin
(3) Lignin (4) Chitin

Q.74 The main function of Golgi complex is - [C.G. PMT 2005]
(1) Translocation
(2) Phosphorylation
(3) Glyco-oxidation
(4) Fermentation

Q.75 In cell division, spindle fibres are made up of protein - [Jharkhand 2006]
(1) Myoglobin (2) Tubulin
(3) Albumin (4) Myosin

Q.76 Bulk of histone proteins synthesized in - [Jharkhand 2006]
(1) G_1-phase (2) G_2-phase
(3) S-phase (4) G_0-phase

Q.77 Choose the incorrect match - [Jharkhand 2006]
(1) Nucleus : RNA
(2) Lysosome : protein synthesis
(3) Mitochondria : respiration
(4) Cytoskeleton : microtubules

Q.78 Rough endoplasic reticulum is associated with - [Jharkhand 2006]
(1) fat synthesis
(2) steroid synthesis
(3) protein synthesis
(4) all of these

Q.79 Resolving power of electron microscope is - [Jharkhand 2006]
(1) 1 □ (2) 10 Å
(3) 100 Å (4) 1000 Å

Q.80 Number of Barr bodies in XXXXY is - [Jharkhand 2006]
(1) 1 (2) 2 (3) 3 (4) 4

Q.81 The study related to the structure and function of a cell is called as - [Jharkhand 2005]
(1) Physiology (2) Cell biology
(3) Histology (4) Cytology

Q.82 The longest phase of meiosis (I) is - [Jharkhand 2005]
(1) metaphse I (2) prophase I

(3) anaphase I (4) telophase I

Q.83 Fluid mosaic model was given by - [Jharkhand 2006]

(1) Knoll and Ruska
(2) Singer and Ruska
(3) Singer and Nicolson
(4) Bateson and Punnet

Q.84 Colchicine prevents the mitosis of cell at - [Jharkhand 2006]

(1) Prophase stage
(2) Anaphase stage
(3) Telophase stage
(4) Metaphase stage

Q.85 The number of DNA in chromosome at G_2 stage - [Jharkhand 2006]

(1) One (2) Two
(3) Four (4) Eight

Q.86 The characteristic of blue-green algae is - [Jharkhand 2006]

(1) DNA without histone
(2) Nucleus absent
(3) Nuclear membrane absent
(4) All of the above

Q.87 Cell wall of a cell is removed, the remaining is called - [Bihar 2005]

(1) Etioplast (2) Aleuroplast
(3) Amyloplast (4) Protoplast

Q.88 Movement against concentration gradient is called -[Bihar 2005]

(1) Osmosis
(2) Active transport
(3) Diffusion
(4) Passive transport

Q.89 Synapsis occurs in ..... phase of meiosis - [Bihar 2005]

(1) Zygotene (2) Diplotene
(3) Pachytene (4) Leptotene

Q.90 Which one is present in both prokaryotic and eukaryotic cell - [Bihar 2004]

(1) Ribosome
(2) Mitochondria

(3) ER
(4) Nucleus

Q.91 Centromere is also called -
[Bihar 2003]
(1) Chromomere
(2) Secondary constriction
(3) Primary constriction
(4) Chromonema

Q.92 In "singer and Nicolson" model of plasma membrane, the extrinsic proteins are -[Bihar 2002]
(1) Tightly associated with intrinsic protein and can be easily separated
(2) Loosely associated with intrinsic protein
(3) Loosely associated with intrinsic protein and can be easily separated
(4) Loosely associated with intrinsic protein and can't be easily separated

Q.93 Ribosomes are associated with -
[Bihar 2002]
(1) RNA synthesis
(2) Protein synthesis
(3) Enzyme mobilisation
(4) DNA synthesis

Q.94 Which organelle is not found in an animal cell - [Bihar 2001]
(1) Peroxysome
(2) Ribosome
(3) Lysosome
(4) None of these

Q.95 Actin fibre is present in - [Bihar 2001]
(1) Cilia
(2) Flagella
(3) Carbohydrates
(4) Microfilaments

Q.96 Meiosis can be observed in -
[Bihar 2006]
(1) Tapetal cells

(2) Megaspores
(3) Micropores
(4) Spore mother cells

Q.97 Carrier proteins are involoved in - [Bihar 2006]
(1) Transport of enzymes
(2) Water transport
(3) Active transport of ions
(4) Passive transport of gases

Q.98 The recent model for plasma membrane proposed by Singer and Nicolson is - [Bihar 2005]
(1) Molecular-lipid model
(2) Lamellar model
(3) Unit membrane model
(4) Fluid mosaic model

Q.99 Significance of meiosis lies in - [Bihar 2006]
(1) Reduction of chromosome number to one half
(2) Maintaning constancy of chromosome number during sexual reproduction
(3) Production of genetic variability
(4) All of the above

Q.100 Function of mitochondria is - [UP CPMT 2002]
(1) Excretion
(2) Respiration
(3) Digestion
(4) Excretion and respiration

Q.101 Term basal body is associated with development of - [UP CPMT 2003]
(1) cilia and flagella (2) cell plate
(3) phragmoplast (4) kinetochore

Q.102 Golgi body originates form - [UP CPMT 2003]

(1) lysosome
(2) Endoplasmic reticulum
(3) mitochondria
(4) cell memrane

Q.103 Lipid molecules in plasma membrane are arranged in which manner - [UP CPMT 2003]
(1) scattered
(2) series
(3) alternate
(4) head parallel

Q.104 Structure of nuclear membrane helps in - [UP CPMT 2003]
(1) organisation of the spindle
(2) synapsis of homologous chromosome
(3) Nucleo-cytoplasmic exchange of material
(4) anaphasic separation of daughter chromosome

Q.105 Hydrolytic enzymes are stored in - [UP CPMT 2003]
(1) Golgi bodies
(2) Lysosomes
(3) Endoplasmic reticulum
(4) Mitochondria

Q.106 Ribosome may also called - [UP CPMT 2002]
(1) Microsome (2) Dictyosome
(3) Ribonucleoprotein (4) Oxysomes

Q.107 Genes are present in - [UP CPMT 2003]
(1) Chromosomes (2) Lamellae
(3) Plasma membrane (4) Mesosomes

Q.108 The cromosome showing L-shaped structure by the presence of centromere is termed as - [MP PMT 2003]
(1) Acentric (2) Metacentric

(3) Sub-metacentric (4) Telocentric

Q.109 Chromosomes can be seen best during - [MP PMT 2003]

(1) Prophase (2) Metaphse

(3) Anaphase (4) Telophase

Q.110 What will be the gametic chromosome number of a cell, if somatic cell have 40 chromosome - [MP PMT 2003]

(1) 10 (2) 20

(3) 30 (4) 40

Q.111 Who coined the term 'cell' - [MP PMT 2003]

(1) Purkinje

(2) Robert Brown

(3) Robert Hooke

(4) Hugo von Mohl

Q.112 In which of the following stage chromosomes are arranged at equatorial plate - [MP PMT 2003]

(1) Anaphase (2) Metaphase

(3) Prophase (4) Telophase

Q.113 During mitosis number of chromosomes gets - [MP PMT 2003]

(1) Change

(2) No change

(3) May be change if cell is mature

(4) May be change if cell is immature

Q.114 Chromosome having centromere in its middle is - [MP PMT 2005]

(1) Acrocentric

(2) Telocentric

(3) Metacentric

(4) Submetacentric

Q.115 Single membrance bound is - [MP PMT 2005]

(1) Lysosome (2) Plastid

(3) Nucleus (4) Mitochondria

Q.116 Which of the following do not possess lipoproteinaceous membrane - [MP PMT 2006]

(1) Lysosomes
(2) Lomasomes
(3) Ribosomes
(4) Sphaerosomes

Q.117 In meiosis chromosome number becomes - [MP PMT 2006]

(1) Half of its parent chromosome
(2) Same as that of parent chromosome
(3) One fourth of its parent chromosome
(4) None of the above

Q.118 Centrosome is not present in - [MP PMT 2003]

(1) Cells of higher plants
(2) Cells of lower plants
(3) Cells of higher animals
(4) Cells of lower animals

Q.119 Site of protein synthesis is - [MP PMT 2005]

(1) Ribosome (2) SER
(3) Golgi bodies (4) Lysosome

Q.120 To study the living cells without staining, which of the following microscopes can be used ? [PB PMT 2002]

(1) SEM (2) Flourescent
(3) Phase contrast (4) TEM

Q.121 Molecular biology is the study of :- [CET Chd. 2002]

(1) Structure, function and cell reproduction
(2) Physio-biochemiccal studies of biomolecules
(3) studying tissues under microscope
(4) metabolic activitity of life

Q.122 The subcelluar components can be separated by - [CMC Ludhiyann 2002,2003]

(1) Paper chormatography

(2) autoradiography
(3) gel electrophoresis
(4) differential and density gradient centrifugation

Q.123 The choromosome separation during metaphase can be best studies by - [CET Chd. 2002,2003]
(1) phase contrast microscope
(2) TEM
(3) X-ray technique
(4) Scannning electron microscope

Q.124 The techniqe chromatography was developed by - [BVP Pune 2002]
(1) Wilkins (2) Georgy Gey
(3) Tswett (4) Zernicks

Q.125 Which of the following dye is used for staining cell organalle, mitochondria ?
[PB PMT 2003]
(1) Janus Green (2) Saffranin
(3) Azure B (4) Crystal violet

Q.126 In fluid mosaic model of plasma membrane - [CBSE - 2002]
(1) Upper layer is non-polar and hydrophilic
(2) Polar layer is hydrophobic
(3) Phospholipids form a bimolecular layer in middle part
(4) Proteins form a middle layer

Q.127 According to widely accepted ''fluid mosaic model'' cell membranes are semi-fluid, where lipids and integral proteins can diffuse randomly. In recent years, this model has been modified in several respects. In this regard, which of the following statements is incorrect - [CBSE - 2005]
(1) Proteins can also undergo flip-flop movements in the lipid bilayer
(2) Many proteins remain completely embeded within the lipid bilayer
(3) Proteins in cell membranes can travel within the lipid bilayer
(4) Proteins can remain confined within certain domains of the membranes

Q.128 Which one of the following is not a constituents of cell membrane - [CBSE - 2007]
(1) Cholesterol (2) Glycolipids

(3) Proline (4) Phospholipids

Q.129 The main organelle involved in modification and routing of newly synthesized proteins to their destinations is - [CBSE - 2005]

(1) Endoplasmic Reticulum
(2) Lysosome
(3) Mitochondria
(4) Chloroplast

Q.130 Chlorophyll in chloroplasts is located in - [CBSE - 2005]

(1) Grana
(2) Pyrenoid
(3) Stroma
(4) Both grana and stroma

Q.131 Which of the following statements regarding mitochondrial membrane is not correct ? [CBSE - 2006]

(1) The outer membrane resembles a sieve
(2) The outer membrane is permeable to all kinds of molecules.
(3) The enzymes of the electron transfer chain are embedded in the outer membrane.
(4) The inner membrane is highly convoluted forming a series of infoldings

Q.132 Polysome is formed by - [CBSE - 2008]

(1) A ribsome with several subunits
(2) Ribosomes attached to each other in a linear arangement
(3) Several ribsomes attached to a single mRNA
(4) Many ribsonmes attached to a strand of endoplasmic reticulum

Q.133 Vacuole in a plant cell - [CBSE - 2008]

(1) Lack membrane and contains air
(2) Lacks membrane and contains water and excretory substances
(3) Is membrane-bound and contains stroage protein and lipids
(4) Is membrane-bound and contains water and excretory substances

Q.134 In germinating seeds fatty acids are degraded exclusively in the - [CBSE - 2008]

(1) Peroxisomes (2) Mitochondria

(3) Proplastids (4) Glyoxysomes

Q.135 Keeping in view the fluid mosaic model for the structure of cell membrane, which one of the following statements is correct with respect to the movment of lipids and proteins from one lipid monolayer to the other (described as flipflop movement)?[CBSE - 2008]

(1) While proteins can flip-flop, lipids can not

(2) Neither lipids, nor proteins can flip-flop

(3) Both lipids and proteins can flip-flop

(4) While lipids can rarely flip-flop, proteins can not

Q.136 Three of the following satements regarding cell organelles are correct while one is wrong. Which one is wrong - [AIMS- 2005]

(1) Lysomes are double membraned vesicles budded off form golgiappratus and contain digestive enzymes

(2) Endoplasmic reticulum consists of a network of membranous tubules and helps in transport, sytehsis and secretion

(3) Leucoplasts are bound by two membranes lack pigment but contain their own DNA and protein synthesizing machinery

(4) Spharosomes are single membrane bonds and are associated with synthesis and storage of lipids

Q.137 In which one of the following would you expect to find glyoxysomes - [AIMS- 2005]

(1) Endosperm of wheat

(2) Endosperm of castor

(3) Palisade cells in leaf

(4) Root hairs

Q.138 Which of the following statements regarding cilia is not correct - [CBSE- 2006]

(1) Cilia contain an outer of nine doublet microtubules surrounding two single microtubules

(2) The organized beating of cilia is controlled by fluxes of Ca^{2+} across the membrane

(3) Cilia are hair-like cellular appendages.

(4) Microtubules of cilia are composed of tubulin

Q.139 The contractile protein of skeletal muscle involving ATPase activity is - [CBSE- 2006]

(1) □-Actinin (2) Troponin

(3) Tropomyosin (4) Myosin

Q.140 Select the wrong statement from the following- [CBSE- 2007]

(1) Both chloroplasts and mitochondria contain an inner and outer membrane

(2) Both chloroplast and mitochondria have an internal compartment, the thylakoid space bounded by the thylakoid membrane.

(3) Both chloroplasts and mitochondria contain DNA

(4) The chloroplasts are generally much larger than mitochondria

Q.141 The telomeres of euaryotic chromosomes consists of short sequences of – [CBSE- 2004]

(1) Cytosine rich repeats

(2) Adenine rich repeats

(3) Guanine rich repeats

(4) Thymine rich repeats

Q.142 If you are provided with root-tips of onion in your class and are asked to count the chromosomes which of the following stages can your most convnintly look into - [CBSE- 2004]

(1) Telophase (2) Anaphase

(3) Prophase (4) Metaphase

Q.143 Protein synthesis in an animal cell occurs- [CBSE- 2005]

(1) On ribosomes present in cytoplasm as well as in mitochondria

(2) On ribosomes present in the nucleolus as well as in cytoplasm

(3) Only on ribosomes attached to the nulecar envelope and endoplasmic reticulum

(4) Only on the ribosomes present in cytosol

Q.144 Telomerase is an enzyme which is a - [CBSE- 2005]

(1) RNA

(2) Ribonucleoprotein

(3) Repetitive DNA

(4) Simple protein

Q.145 The length of DNA moelcule greatly exceeds the dimensions of the nucleus in eukaryotic cells. How is the DNA accomodated ? [CBSE- 2007]

(1) Deletion of non-essential genes

(2) Supper-coiling in nucleosomes

(3) DNase digestion

(4) Through elimination of repetitive DNA

Q.146 Which one of the following proceeds re-formation of the nuclear envelope during M phase of the cell cycle - [CBSE 2004]

(1) Transcription from chromosomes and reassembly of the of the nuclear lamina

(2) Formation of the contractile ring and formation of the phragmoplast

(3) Formation of the contractile ring and transcription from chromosome

(4) Decondensation from chromosomes and reassembly of the nuclear lamina

Q.147 Crossing over that results in genetic recombination in higher organisms occurs between - [CBSE 2004]

(1) Non-sister chromatids of a bivalent

(2) Two daughter nuclei

(3) Two different bivalents

(4) Sister chromatids of a bivalents

Q.148 In the somatic cell cycle - [CBSE 2004]

(1) DNA replication takes place in S-phase

(2) A short interphase is followed by a long mitotic phase

(3) G_2 phase follows mitotic phase

(4) In G_1 phase DNA content is double the amount of DNA present in the orginal cell

Q.149 When synapsis is complete all along the chromosome, the cell is said to have entered a stage called - [CBSE 2004]

(1) Zygotene (2) Pachytene

(3) Diplotene (4) Diakinesis

Q.150 Many cells function properly and divide mitotically though they do not have -

[AIIMS 2005]

(1) Plasma membrane

(2) Cytoskeleton

(3) Mitochondria

(4) Plastids

Q.151 Centromere is required for - [AIIMS 2005]

(1) Movement of chromosomes towards poles
(2) Cytoplasmic cleavage
(3) Crossing over
(4) Transcription

Q.152 At what stage of the cell cycle are histone proteins synthesized in a eukaryotic cell -[CBSE 2005]

(1) During telophase
(2) During S-phase
(3) During G_2-stage of prophase
(4) During entire prophase

Q.153 Plasmodesmata are - [CBSE 2009]

(1) Connections between adjacent cells
(2) Lignified cemented layers between cells
(3) Locomotary structures
(4) Membranes connecting the nucleus with plasmalemma

Q.154 Synapsis occurs between -[CBSE 2009]

(1) Two homologous chromosomes
(2) A male and a female gamete
(3) mRNA and ribosomes
(4) Spindle fibres and centromere

Q.155 Middle lamella is composed mainly of - [CBSE 2009]

(1) Phosphoglycerides
(2) Hemicellulose
(3) Muramic acid
(4) Calcium pectate

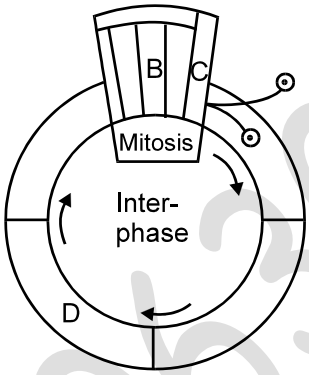
Q.156 Cytoskeleton is made up of - [CBSE 2009]

(1) Proteinaceous filaments
(2) Calcium carbonate granules
(3) Callose deposits
(4) Cellulosic microfibrils

Q.157 The cell junctions called tight, adhering and gap junctions are found in - [CBSE 2009]

(1) Neural tissue
(2) Muscular tissue
(3) Connective tissue
(4) Epithelial tissue

Q.158 Given below is a schematic break-up of the phases/stages of cell cycle – [CBSE 2009]



Which one of the following is the correct indication of the state/phase in the cell cycle -

(1) A - Cytokinesis
(2) B - Metaphse
(3) C - Karyokinesis
(4) D - Synthetic phase

Q.159 There is no DNA in - [CBSE 2009]

(1) Hair root
(2) An enucleated ovum
(3) Mature RBCs
(4) A mature spermatozoan

Q.160 A student wishes to study the cell structure under a light microscope having 10X eye piece and 45X objective. He should illuminate the object by which one of the follwoing colours of light so as to get the best possible resolution ? [CBSE 2005]

(1) Yellow (2) Grren
(3) Red (4) Blue

Q.161 A major breakthrough in the studies of cell came with the development of electron microscope. This is because [CBSE 2006]

(1) electron beam can pass through thick mater als, whereas light microscopy requires thin section.

(2) the electron microscope is more powerful than the light microscope as it uses a beam of electrons which has wavelength much loger than that of photons

(3) the resolution power of the electron microscope is much higher than that of the light microscope

(4) the resolving power of the electron microscope is 200-350 nm as compared to 0.1-0.2 nm for the light microscope

Q.162 During mitosis ER and nucleolus begin to disappear at – [CBSE 2010]

(1) Late prophase

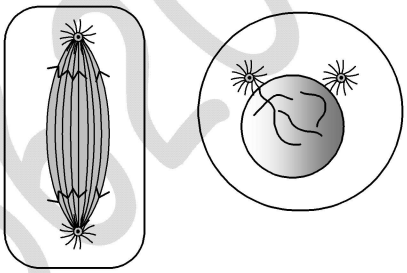
(2) Early metaphase

(3) Late metaphase

(4) Early prophase

Q.163 Which stages of cell division do the following figures A and B represent respectively ?

[CBSE 2010]



(1) Metaphse - Telophase

(2) Telophase - Metaphse

(3) Late Anaphase - Prophase

(4) Prophase - Anaphase

Q.164 The main area of variuos types of activites of a cell is – [CBSE 2010]

(1) Plasma membrane

(2) Mitochondrian

(3) Cytoplasm

(4) Nucleus

Q.165 Carrier ions like Na^+ facilitate the absorption of substances like – [CBSE 2010]

(1) amino acids and glucose

(2) glucose and fatty acids

(3) fatty acids and glycerol

(4) fructose and some amino acids

Q.166 The plasma membrane consists mainly of –[CBSE 2010]

(1) phospholipids embedded in a protein bilayer

(2) proteins embedded in a phospholipid bilayer

(3) proteins embedded in a polymer of glucose molecules

(4) proteins embedded in a carbohydrate bilayer

Q.167 An elaborate network of filamentous proteinaceous structures present in the cytoplasm which helps in the maintenance of cell shape is called - [AIPMT MAINS 2010]

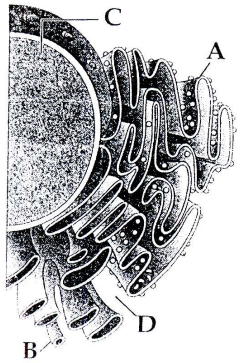
(1) Endosplasmic Reticulum

(2) Plasmalemma

(3) Cytoskeleton

(4) Thylakoid

Q.168 Identify the components labelled A, B, C and D in the diagram below from the list (i) to (viii) given along with – [AIPMT MAINS 2010]



Components :

(i) Cristae of mitochondria

(ii) Inner membrane of mitochondria

(iii) Cytoplasm

(iv) Smooth endoplasmic reticulum

(v) Rough endoplasmic reticulum
(vi) Mitochondrial matrix
(vii) Cell vacuole
(viii) Nucleus
The correct components are

	A	B	C	D
(1)	(i)	(iv)	(viii)	(vi)
(2)	(vi)	(v)	(iv)	(vii)
(3)	(v)	(i)	(iii)	(ii)
(4)	(v)	(iv)	(viii)	(iii)

Q.169 In eubacteria, a cellular component that resembles eukaryotic cell is :
[AIPMT Pre- 2011]
(1) Cell wall
(2) Plasma membrane
(3) Nucleus
(4) Ribosomes

Q.170 Which one of the following organisms is not an example of eukaryotic cells ?[AIPMT Pre- 2011]
(1) Amoeba proteus
(2) Paramcciumcaudatum
(3) Escheria coli
(4) Euglena viridis

Q.171 Select the correct opition with respect to mitosis [AIPMT Pre- 2011]
(1) Chromosomes move to the spindle equator and get aligned along equatorial plate in metaphase
(2) Chromatids separate but remain in the centre of the cell in anaphase
(3) Chromatids start moving towards opposite poles in telophase
(4) Golgi complex and endoplasmic reticulum are still visible at the end of prophase

Q.172 Important site for formation of glycoproteins and glycolipids is :
[AIPMT Pre- 2011]

(1) Lysosome (2) Vacuole
(3) Golgi apparatus (4) Plastid

Q.173 Peptide synthesis inside a cell takes place in : [AIPMT Pre- 2011]
(1) Ribosomes (2) Chloroplast
(3) Mitochondria (4) Chromoplast

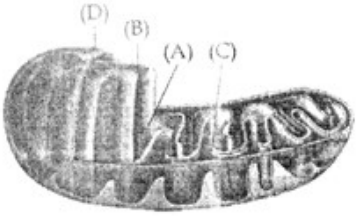
Q.174 In land plants, the guard cells differ from other epidermal cells in having :
[AIPMT Pre- 2012]
(1) Chloroplasts
(2) Cytoskeleton
(3) Mitochondria
(4) Endoplasmic reticulum

Q.175 What would be the number of chromosomes of the aleurone cells of a plant with 42 chromosomes in its root tip cells ? [AIPMT Pre- 2013]
(1) 21 (2) 42 (3) 63 (4) 84

Q.176 At metaphase, chromosomes are attached to the spindle fibres by their :
[AIPMT Mains- 2015]
(1) Centromere
(2) Satellites
(3) Secondary constrictions
(4) Kinetochores

Q.177 Which one of the following is not considered as a part of the endomembrane system ?
[AIPMT Mains- 2016]
(1) Lysosome (2) Golgi complex
(3) Peroxisome (4) Vacuole

Q.178 The figure below shows the structure of a mitchondrion with its four parts labelled (A), (B), (C). and (D) Select the part correctly matched with its function –
[AIPMT Mains- 2017]



(1) Part (A) : Matrix – major site for respiratory chain enzymes
(2) Part (D) : Outer membrane – gives rise to inner membrane by splitting
(3) Part (B) : Inner membrane – forms infoldings called cristae
(4) Part (C) : Cristae – possess single circular DNA molecule and ribosome

PART 2

1. **Potassium permanganate acts as an oxidant in neutral, alkaline as well as acidic media. The final products obtained from it in the three conditions are, respectively** [MP PMT 1997]

(a) MnO_2, MnO_2, Mn^{2+} (b) $MnO_4^{2-}, Mn^{3+}, Mn^{2+}$
(c) $MnO_2, MnO_4^{2-}, Mn^{3+}$ (d) MnO, MnO_4, Mn^{2+}

2. **In acidic medium one mole of MnO_4^- accepts how many moles of electrons in a redox process ?[MP PET/PMT 1998]**

(a) 1 (b) 3
(c) 5 (d) 6

3. **In acidic medium potassium dichromate acts as an oxidant according to the equation, $Cr_2O_7^{2-} + 14H^+ + 6e^- \rightarrow 2Cr^{3+} + 7H_2O$. What is the equivalent weight of $K_2Cr_2O_7$? (mol. Wt. = *M*)** [MP PET/PMT 1998]

(a) M (b) $M/2$
(c) $M/3$ (d) $M/6$

4. **The correct formula of permanganic acid is** [MP PET 1999]

(a) $HMnO_4$ (b) $HMnO_5$

(c) H_2MnO_4 (d) H_2MnO_3

5. Acidified potassium dichromate is treated with hydrogen sulphide. In the reaction, the oxidation number of chromium [MP PET 1996]

(a) Increases from + 3 to + 6

(b) Decreases from +6 to +3

(c) Remains unchanged

(d) Decreases from +6 to +2

6. When $KMnO_4$ reacts with acidified $FeSO_4$ [MP PET 1996]

(a) Only $FeSO_4$ is oxidised

(b) Only $KMnO_4$ is oxidised

(c) $FeSO_4$ is oxidised $KMnO_4$ and is reduced

(d) None of these

7. When calomel reacts with NH_4OH, we get [CBSE PMT 1996]

(a) $HgNH_2Cl$ (b) $NH_2 - Hg - Hg - Cl$

(c) Hg_2O (d) HgO

8. $AgCl$ dissolves in a solution of NH_3 but not in water because [MP PMT 1984, 86]

(a) NH_3 is a better solvent than H_2O

(b) Ag^+ forms a complex ion with NH_3

(c) NH_3 is a stronger base than H_2O

(d) The dipole moment of water is higher than NH_3

9. In solid $CuSO_4.5H_2O$ copper is co-ordinated to [MP PET 1985, 86]

(a) Five water molecules (b) Four water molecules

(c) One sulphate anion (d) One water molecule

10. A white powder soluble in NH_4OH but insoluble in water is [AFMC 1987]

(a) $BaSO_4$ (b) $CuSO_4$

(c) $PbSO_4$ (d) $AgCl$

11. Verdigris is [BHU 1987]

(a) Basic copper acetate (b) Basic lead acetate

(c) Basic lead (d) None of these

12. Number of moles of $K_2Cr_2O_7$ reduced by one mole of Sn^{2+} ions is [KCET 1996]

(a) 1/3 (b) 3

(c) 1.6 (d) 6

13. Which one of the following is reduced by hydrogen peroxide in acid medium [EAMCET 1997]

(a) Potassium permanganate

(b) Potassium iodide

(c) Ferrous sulphate

(d) Potassium ferrocyanide

14. Which oxide of manganese is amphoteric [AFMC 1995]

(a) MnO_2 (b) Mn_2O_3

(c) Mn_2O_7 (d) MnO

15. Which one of the following oxides is ionic [IIT-JEE 1995]

(a) MnO (b) Mn_2O_7

(c) CrO_3 (d) P_2O_5

16. Correct formula of calomel is[CPMT 1994; AFMC 1998]

(a) Hg_2Cl_2 (b) $HgCl_2$

(c) $HgCl_2.H_2O$ (d) $HgSO_4$

17. One of the important use of ferrous sulphate is in the

(a) Manufacture of blue black ink

(b) Manufacture of chalks

(c) Preparation of hydrogen sulphide

(d) Preparation of anhydrous ferric chloride

18. Copper sulphate is not used

(a) In electrotyping

(b) In dyeing and calicoprinting

(c) In detecting water

(d) As fertilizer

19. Blue vitriol is [AFMC 1992]

(a) $CuSO_4$ (b) $CuSO_4.5H_2O$

(c) Cu_2SO_4 (d) $CuSO_4.H_2O$

20. A solution of copper sulphate may be kept safely in the container made up of

(a) Fe (b) Ag

(c) Zn (d) Al

21. Silver nitrate produces a black stain on skin due to

(a) Being a strong reducing agent

(b) Its corrosive action

(c) Formation of complex compound

(d) Its reduction to metallic silver

22. When hypo solution is added to cupric sulphate solution, the blue colour of the latter is discharged, due to formation of

(a) CuS_2O_3 (b) $Na_2S_4O_6$

(c) $NaCuS_2O_3$ (d) Cu_2O

23. Metal oxides which decomposes on heating is [MNR 1984; UPSEAT 1999]

(a) ZnO (b) Al_2O_3

(c) CuO (d) Na_2O

(e) HgO

24. Anhydrous sample of ferric chloride is prepared by heating

(a) $Fe + HCl$ (b) $Fe + Cl_2$

(c) $FeCl_2 + Cl_2$ (d)Hydrated ferric chloride

25. Light green crystals of ferrous sulphate lose water molecule and turn brown on exposure to air. This is due to its oxidation to

(a) Fe_2O_3 (b) $Fe_2O_3.H_2O$

(c) $Fe(OH)SO_4$ (d) $Fe_2O_3 + FeO$

26. In alkaline condition $KMnO_4$, reacts as follows :

$2KMnO_4 + 2KOH \rightarrow 2K_2MnO_4 + H_2O + O$

Therefore its equivalent weight will be

[NCERT 1974; CPMT 1977; DCE 2002]

(a) 31.5 (b) 52.7

(c)72.0 (d) 158.0

27. Equivalent weight of $KMnO_4$ acting as an oxidant in acidic medium is equal to[CPMT 1990; MP PMT 1999]

(a) Molecular weight of $KMnO_4$

(b) $\frac{1}{2} \times$ Molecular weight of $KMnO_4$

(c) $\frac{1}{3} \times$ Molecular weight of $KMnO_4$

(d) $\frac{1}{5} \times$ Molecular weight of $KMnO_4$

28. In which of the following ionic radii of chromium would be smallest [MP PET 1994]

(a) K_2CrO_4 (b) CrO_2

(c) $CrCl_3$ (d) CrF_2

29. $CoO.Al_2O_3$ is called

(a) Cobalt aluminate(b) Thenard's blue

(c)Both (a) and (b) (d)None of these

30. $ZnO.CoO$ is called

(a) Cobalt zincate (b) Rinman's green

(c) Both (a) and (b) (d) None of these

31. $FeSO_4.(NH_4)_2SO_4.6H_2O$ is called [Bihar CEE 1995]

(a) Mohr's salt (b) Green salt

(c) Alum (d) Glauber's salt

32. Molybdenum compounds are used in

(a) Dye industry (b) For colouring leather

(c) For colouring rubber (d) All of these

33. When copper turnings and concentrated HCl is heated with copper sulphate the compound formed is[CPMT 1984]

(a) Cupric chloride (b) Cuprous chloride

(c) Copper sulphate (d) SO_2

34. The compound of copper which turns green on keeping in air is [CPMT 1984]

(a) Copper sulphate (b) Copper nitrate

(c) Cupric chloride (d) Cuprous chloride

35. Cu_2Cl_2 with HCl in presence of oxidising agents gives [CPMT 1984]

(a) $CuCl_2$ (b) H_2CuCl_2

(c) Hydrogen gas (d) Chlorine gas

36. $K_2Cr_2O_7$ on heating with aqueous $NaOH$ gives [CBSE PMT 1997]

(a) CrO_4^{2-} (b) $Cr(OH)_3$

(c) $Cr_2O_7^{2-}$ (d) $Cr(OH)_2$

37. $KMnO_4$ reacts with oxalic acid according to the equation :

$2MnO_4^- + 5C_2O_4^{2-} + 16H^+ \rightarrow 2Mn^{2+} + 10CO_2 + 8H_2O$

Here 20 *ml* of 0.1 *M* $KMnO_4$ is equivalent to [CBSE PMT 1996]

(a) $20ml$ of 0.5 *M* $C_2H_2O_4$

(b) $50ml$ of 0.1 M $C_2H_2O_4$

(c) $50ml$ of 0.5 M $C_2H_2O_4$

(d) $20ml$ of 0.1 M $C_2H_2O_4$

38. The equivalent weight of potassium permanganate for acid solution is [MP PET 1999]

(a) 158 (b) 31.6

(c) 52.16 (d) 79

39. Which statement is not correct[MP PET 1999]

(a) Potassium permanganate is a powerful oxidising substance

(b) Potassium permanganate is a weaker oxidising substance than potassium dichromate

(c) Potassium permanganate is a stronger oxidising substance than potassium dichromate

(d) Potassium dichromate oxidises a secondary alcohol into a ketone

40. The formula of corrosive sublimate is [CPMT 1997]

(a) $HgCl_2$ (b) Hg_2Cl_2

(c) Hg_2O (d) Hg

41. Which is mild oxidising agent[AFMC 1971]

(a) Ag_2O (b) $KMnO_4$

(c) $K_2Cr_2O_7$ (d) Cl_2

42. The equivalent weight of $K_2Cr_2O_7$ in acidic medium

(a) 294 (b) 298

(c) 49 (d) 50

43. The transitional element of III-B group is isomorphic with $Al_2(SO_4)_3$. Therefore the compound will be

(a) Purple (b) Blue

(c) White (d) Uncertain

44. A copper salt is isomorphic with $ZnSO_4$, the salt will be

(a) Paramagnetic (b) Diamagnetic

(c) Ferromagnetic (d) None

45. V_2O_5 is useful as catalyst in

(a) Manufacture of H_2SO_4

(b) Manufacture of HNO_3

(c) Manufacture of Na_2CO_3

(d) It is not a catalyst

46. $KMnO_4$ in basic medium is reduced to [Orissa JEE 2005]

(a) K_2MnO_4 (b) MnO_2

(c) $Mn(OH)_2$ (d) Mn^{2+}

47. When $KMnO_4$ is reduced with oxalic acid in acidic solution, the oxidation number of Mn changes from [CPMT 1989]

(a) 7 to 4 (b) 6 to 4

(c) 7 to 2 (d) 4 to 2

48. Nesseler's reagent is [MP PET 1991; MP PMT 1993; AFMC 2001]

(a) K_2HgI_4 (b) $K_2HgI_4 + KOH$

(c) $K_2HgI_2 + KOH$ (d) $K_2HgI_4 + Hg$

49. When ammonium dichromate is heated, the gas formed is [MP PMT 1993; IIT-JEE 1999]

(a) N_2 (b) O_2

(c) H_2 (d) NH_3

50. Acidified potassium dichromate on reacting with a sulphite is reduced to

(a) CrO_2Cl_2 (b) CrO_4^{2-}

(c) Cr^{3+} (d) Cr^{2+}

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51. The product of oxidation of I^- ion by MnO_4^- in alkaline medium is
(a) I_2 (b) IO_3^-
(c) IO_4^- (d) I_3^-

52. Identify the statement which is not correct regarding copper sulphate [UPSEAT 2000, 01]
(a) It reacts with *KI* to give iodine
(b) It reacts with *KCl* to give Cu_2Cl_2
(c) It reacts with *NaOH* and glucose to give Cu_2O
(d) It give *CuO* on strong heating in air

53. Acidified potassium permanganate solution is decolourised by [MNR 1984]
(a) Bleaching powder (b) White vitriol
(c) Mohr's salt (d) Microcosmic salt
(e) Laughing gas

54. Which of the following oxides is white but becomes yellow on heating [MP PET 1995]
(a) AgO (b) Ag_2O
(c) FeO (d) ZnO

55. Amalgams are
(a) Highly coloured alloys
(b) Always solid
(c) Alloys which contain mercury as one of the contents
(d) Alloys which have great resistance to abrasion

56. In photography sodium thiosulphate is used as [DPMT 2005]
(a) Complexing agent (b) Oxidising agent
(c) Reducing agent (d) None of these

57. The substance that sublimes on heating [EAMCET 1978, 82; MP PMT 1999]

(a) Magnesium chloride (b) Silver chloride

(c) Mercurous chloride (d) Sodium chloride

58. $K_3[Fe(CN)_6]$ is called

(a) Potassium ferricyanide

(b) Red prussiate of potash

(c) Potassium hexacyanoferrate (III)

(d) All of these

59. Which of the following will show increase in weight when kept in magnetic field

(a) TiO_2 (b) $Fe_2(SO_4)_3$

(c) $KMnO_4$ (d) $ScCl_3$

60. Amongst $TiF_6^{2-}, CoF_6^{3-}, Cu_2Cl_2$ and $NiCl_4^{2-}$ (Atomic number $Ti = 22$, $Co = 27$, $Cu = 29$, $Ni = 28$). The colourless species are [CBSE PMT 1995]

(a) CoF_6^{3-} and $NiCl_4^{2-}$ (b) TiF_6^{2-} and CoF_6^{3-}

(c) Cu_2Cl_2 and $NiCl_4^{2-}$ (d) TiF_6^{2-} and Cu_2Cl_2

61. Which of the following imparts green colour to the glass [CPMT 1993]

(a) Cu_2O (b) CdS

(c) MnO_2 (d) Cr_2O_3

62. On the heating copper nitrate strongly, ... is finally obtained [CPMT 1971, 74, 78]

(a) Copper (b) Copper oxide

(c) Copper nitrate (d) Copper nitride

63. On adding *KI* to a solution of copper sulphate [CPMT 1973; NCERT 1977; MP PMT 1989]

(a) Cupric oxide is precipitated

(b) Metallic copper is precipitated

(c) Cuprous iodide is precipitated with liberation of iodine

(d) No change occurs

64. Which of the following statements is correct about equivalent weight of $KMnO_4$ [MP PET 1994]

(a) It is one third of its molecular weight in alkaline medium

(b) It is one fifth of its molecular weight in alkaline medium

(c) It is equal to its molecular weight in acidic medium

(d) It is one third of its molecular weight in acidic medium

65. The reaction of $K_2Cr_2O_7$ with $NaCl$ and conc. H_2SO_4 gives [MP PET 1994]

(a) $CrCl_3$ (b) $CrOCl_2$

(c) CrO_2Cl_2 (d) Cr_2O_3

66. Silver nitrate is supplied in coloured bottles because it is [CPMT 1985]

(a) Oxidised in air

(b) Decomposes in sunlight

(c) Explosive in sunlight

(d) Reactive towards air in sunlight

67. A nitrate when mixed with common salt gives a white precipitate which is soluble in dilute NH_4OH. It is the nitrate of [CPMT 1985]

(a) Copper (b) Mercury

(c) Silver (d) Gold

68. Which one of the following is lunar caustic [CPMT 1984]

(a) $AgNO_3$ (b) Cu_2Cl_2

(c) $CuCl_2$ (d) Hg_2Cl_2

69. Invar, an alloy of *Fe* and *Ni* is used in watches and meter scale, its characteristic property is [Kerala (Engg.) 2002]

(a) Small coefficient of expansion

(b) Resistance to corrosion

(c) Hardness and elasticity

(d) Magnetic nature

70. The extraction of nickel involves

(a) The formation of $Ni(CO)_4$

(b) The decomposition of $Ni(CO)_4$

(c) The formation and thermal decomposition of $Ni(CO)_4$

(d) The formation and catalytic decomposition of $Ni(CO)_4$

71. On adding excess of NH_3 solution to $CuSO_4$ solution, the dark blue colour is due to

[CPMT 1990; AIIMS 1982; MP PMT 1989, 92; BHU 1996; JIPMER 1997]

(a) $[Cu(NH_3)_4]^{++}$ (b) $[Cu(NH_3)_2]^{++}$

(c) $[Cu(NH_3)]^{+}$ (d) None of the above

72. If *M* is the molecular weight of $KMnO_4$, its equivalent weight will be when it is converted into K_2MnO_4

[MP PET 1993]

(a) *M* (b) *M*/3

(c) *M*/5 (d) *M*/7

73. While writing the formula of ferrous oxide it is written as (FeO), because it is

(a) Non-stoichiometric (b) Non-existant

(c) Paramagnetic (d) Ferromagnetic

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74. Which of the following exhibit maximum oxidation state of vanadium

(a) $VOCl_3$ (b) VCl_4

(c) VCl_3 (d) VCl_2

75. Prussian blue is due to the formation of

[BHU 1980; CBSE PMT 1990; KCET 1992; MP PET 1995]

(a) $Fe_4[Fe(CN)_6]_3$ (b) $Fe_2[Fe(CN)_6]$

(c) $Fe_3[Fe(CN)_6]$ (d) $Fe[Fe(CN)_6]_3$

76. The Nesseler's reagent contains

[CPMT 1976, 88; NCERT 1987; MP PMT 1985; BHU 1996]

(a) Hg_2^{++} (b) Hg^{++}

(c) HgI_2^{--} (d) HgI_4^{--}

77. Formula of ferric sulphate is [AFMC 2003]

(a) $FeSO_4$ (b) $Fe(SO_4)_2$

(c) Fe_2SO_4 (d) $Fe_2(SO_4)_3$

78. When $CuSO_4$ is hydrated, then it becomes [AFMC 2003]

(a) Acidic (b) basic

(c) Neutral (d) Amphoteric

79. Silvering of mirror is done by[AFMC 2003]

(a) $AgNO_3$ (b) Ag_2O_3

(c) Fe_2O_3 (d) Al_2O_3

80. The colour of $K_2Cr_2O_7$ changes from red orange to lemon yellow on treatment with aqueous KOH because of

[MP PMT 1994]

(a) The reduction of Cr^{VI} to Cr^{III}

(b) The formation of chromium hydroxide

(c) The conversion of dichromate to chromate

(d) The oxidation of potassium hydroxide to potassium peroxide

81. On heating pyrollusite with KOH in presence of air we get

(a) $KMnO_4$ (b) K_2MnO_4

(c) $Mn(OH)_2$ (d) Mn_3O_4

82. $Cu(CN)_4^{2-}$ is colourless as it absorbs light in

(a) Visible region (b) Ultraviolet region

(c) Infrared region (d) All above are wrong

83. Acidified solution of chromic acid on treatment with hydrogen peroxide yields [MP PET 1999; AFMC 2000]

(a) $CrO_3 + H_2O + O_2$ (b) $Cr_2O_3 + H_2O + O_2$

(c) $CrO_5 + H_2O$ (d) $H_2Cr_2O_7 + H_2O + O_2$

84. Which of the following metals corrodes readily in moist air [CPMT 1972, 82; CBSE PMT 1989]

(a) Gold (b) Silver

(c) Nickel (d) Iron

85. Which one of the following compounds is not coloured [AIIMS 1997]

(a) Na_2CuCl_4 (b) Na_2CdCl_4

(c) $K_4Fe(CN)_6$ (d) $K_3Fe(CN)_6$

86. Acidified $KMnO_4$ is decolourzed by[AMU 1999]

(a) Br_2 (b) O_3

(c) *HCl* (d) *HBr*

87. Which of the following compound expected to be colourless

(a) ScO (b) V_2O_3

(c) $CuCN$ (d) $Cr_2(SO_4)_3$

88. Crystals of which pair are isomorphous [CPMT 1990]

(a) $ZnSO_4$, $SnSO_4$ (b) $MgSO_4$, $CaSO_4$

(c) $ZnSO_4$, $MgSO_4$ (d) $PbSO_4$, $NiSO_4$

89. On heating $Mn(OH)_2$ with PbO_2 and conc. HNO_3 pink colour is obtained due to the formation of[MP PET 1995]

(a) $KMnO_4$ (b) $HMnO_4$

(c) $Pb(MnO_4)_2$ (d) $PbMnO_4$

90. Which of the following is used as white pigment

(a) TiO_2 (b) V_2O_5

(c) CuO (d) HgO

91. Which metal oxide is used to make blue glass

(a) Fe_2O_3 (b) CoO

(c) Cu_2O (d) NiO

92. The chemical formula for certain pyrophosphate is $Ca_2P_2O_7$, the formula of its ferric pyrophosphate will be

(a) $Fe_2(P_2O_7)_3$ (b) $Fe_4(P_4O_{14})$

(c) $Fe_4(P_2O_7)_3$ (d) Fe_3PO_4

93. Which of the following compounds does not dissolve in ammonium hydroxide solution

(a) AgF (b) $AgBr$

(c) $AgCl$ (d) AgI

94. Which of the following is non-stoichiometric

(a) Fe_3O_4 (b) Fe_2O_3

(c) FeO (d) All the above

95. Ferrosilicon is used in steel industry as [Kerala (Med.) 2003]

(a) A flux (b) Scavenger of hydrogen

(c)A reducing agent (d)A cutting tool

(e) Alloying agent

96. In the reaction,

$$2KMnO_4 + 16HCl \rightarrow 5Cl_2 + 2MnCl_2 + 2KCl + 8H_2O$$

the reduction product is [Kerala (Med.) 2003]

(a) Cl_2 (b) $MnCl_2$

(c) H_2O (d) KCl

97. Which one of the following statements is correct [AIEEE 2003]

(a) Manganese salts give violet borax bead test in the reducing flame

(b) From a mixed precipitate of $AgCl$ and AgI ammonia solution dissolves only $AgCl$

(c) Ferric ions give a deep green precipitate on adding potassium ferrocyanide solution

(d) On boiling a solution having K^+, Ca^{2+} and HCO_3^- ions we get a precipitate of $K_2Ca(CO_3)_2$

98. Collin's reagent is [RPMT 2002]

(a) MNO_2 / HCl (b) MNO_4 / C_5H_5N

(c) $K_2Cr_2O_7 / H_2SO_4$ (d) $Cr_2O_3 / 2C_5H_5N$

99. Which compound has coloured aqueous solution [RPMT 2002]

(a) $Zn(NO_3)_2$ (b) $LiNO_3$

(c) $Co(NO_3)_2$ (d) $Ba(NO_3)_2$

100. Zinc oxide when treated with $NaOH$ solution gives

(a) $Zn(OH)_2$ (b) $ZnCl_2$

(c) Na_2ZnO_2 (d) $Zn(OH)_3$

101. Which of the following compounds volatilises on heating [BHU 1998]

(a) $MgCl_2$ (b) $HgCl_2$

(c) $CaCl_2$ (d) $FeCl_3$

102. Which of the following statement is not true

(a) Colourless compounds of transition elements are paramagnetic

(b) Coloured compounds of transition elements are paramagnetic

(c) Colourless compounds of transition elements are diamagnetic

(d) Transition elements form the complex compounds

103. Calamine is a mineral, which is [MP PMT 2003]

(a) $ZnCO_3$ (b) ZnS

(c) $ZnSO_4$ (d) ZnO

104. Super conductors are derived from compounds of [Kerala (Engg.) 2002]

(a) *p*-block elements (b) Lanthanides

(c) Actinides (d) Transition elements

105. Manganese achieves its highest oxidation state in its compound [MP PET 1993, 2001; MP PMT 2004]

(a) MnO_3 (b) Mn_3O_4

(c) $KMnO_4$ (d) K_2MnO_4

106. Which can be reduced to the metal by heating it in a stream of hydrogen [DPMT 2000]

(a) Copper (II) oxide (b) Magnesium oxide

(c) Aluminium oxide (d) Calcium oxide

107. Which of the following is coloured

(a) $ScCl_3$ (b) TiO_2

(c) $MnSO_4$ (d) $ZnSO_4$

108. Chrome green is

(a) Chromium sulphate (b) Chromium chloride

(c) Chromium nitrate (d) Chromium oxide

109. The colour of $(NH_4)_2SO_4Fe(SO_4)_3.24H_2O$ is

[BHU 1982; CPMT 1989]

(a) White (b) Green

(c) Violet (d) Blue

110. Correct formula of potassium ferricyanide is [DPMT 1982, 83; CPMT 1974; AFMC 2005]

(a) $K_4Fe(CN)_6$ (b) $K_3Fe(CN)_6$

(c) $K_3[Fe(CN)_3]$ (d) $K_3[Fe(CN)_4]$

111. The form of iron having the highest carbon content is [DPMT 2005]

(a) Cast iron (b) Wrought iron

(c) Strain steel (d) Mild steel

112. Aqueous solution of ferric chloride is [MP PMT 1999]

(a) Acidic (b) Basic

(c) Neutral (d) Amphoteric

113. In the reduction of dichromate by $Fe(II)$ the number of electrons involved per chromium atom is [Pb. PMT 2001]

(a) 2 (b) 3

(c) 4 (d) 1

114. A group of acidic oxide is [MP PET 2003]

(a) CrO_3, Mn_2O_7 (b) ZnO, Al_2O_3

(c) CaO, ZnO (d) Na_2O, Al_2O_3

115. Silver nitrate is mainly used[CPMT 1988, 93]

(a) In photography (b) In model formation

(c) As reducing agent (d) As dehydrating agent

116. The correct order of magnetic moments (spin only values in B.M.) among is [AIEEE 2004]

(a) $[Fe(CN)_6]^{4-} > [MnCl_4]^{2-} > [CoCl_4]^{2-}$

(b) $[MnCl_4]^{2-} > [Fe(CN)_6]^{4-} > [CoCl_4]^{2-}$

(c) $[MnCl_4]^{2-} > [CoCl_4]^{2-} > [Fe(CN)_6]^{4-}$

(d) $[Fe(CN)_6]^{4-} > [CoCl_4]^{2-} > [MnCl_4]^{2-}$

(Atomic nos. $Mn = 25, Fe = 26, Co = 27$)

117. Hybridization of $[Ni(CO)_4]$ is [Pb. CET 2000]

(a) sp^3 (b) d^2sp^3

(c) sp^3d (d) sp^2

118. What is the oxidation number of iron in the compound $[Fe(H_2O)_5(NO)]SO_4$ [Pb. CET 2001]

(a) +2 (b) +3

(c) ±1 (d) ±4

119. Which of the following metal gives hydrogen gas, when heated with hot concentrated alkali[Pb. CET 2002]

(a) *Cu* (b) *Ag*

(c) *Zn* (d) *Ni*

120. When ferric oxide reacts with *NaOH*, the product formed is [Pb. CET 2002]

(a) *NaF* (b) $FeCl_3$

(c) $Fe(OH)_3$ (d) $NaFeO_2$

121. The compound insoluble in water is [AIIMS 2004]

(a) Mercurous nitrate (b) Mercuric nitrate

(c) Mercurous chloride (d) Mercurous perchlorate

122. Which is an amphoteric oxide [JEE Orissa 2004, 05]

(a) *ZnO* (b) *CaO*

(c) *BaO* (d) *SrO*

123. What is the magnetic moment of $[FeF_6]^{3-}$ [JEE Orissa 2004]

(a) 5.92 (b) 5.49

(c) 2.32 (d) 4

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124. How H_2S is liberated in laboratory [JEE Orissa 2004]

(a) $FeSO_4 + H_2SO_4$

(b) $FeS + dil.\ H_2SO_4$

(c) $FeS + \text{conc. } H_2SO_4$

(d) Elementary H_2 + elementary *S*

125. The spin magnetic moment of cobalt in the compound $Hg[Co(SCN)_4]$ is [IIT JEE Screening 2004]

(a) $\sqrt{3}$ (b) $\sqrt{8}$

(c) $\sqrt{15}$ (d) $\sqrt{24}$

126. In which of these processes platinum is used as a catalyst [DCE 2004]

(a) Oxidation of ammonia to form HNO_3

(b) Hardening of oils

(c) Production of synthetic rubber

(d) Synthesis of methanol

127. Iron is dropped in dil. HNO_3, it gives [DCE 2004]

(a) Ferric nitrate

(b) Ferric nitrate and NO_2

(c) Ferrous nitrate and ammonium nitrate

(d) Ferrous nitrate and nitric oxide

128. CrO_3 dissolves in aqueous $NaOH$ to give [J & K 2005]

(a) CrO_4^{2-} (b) $Cr(OH)_3^-$

(c) $Cr_2O_7^{2-}$ (d) $Cr(OH)_2$

129. *KI* and $CuSO_4$ solution when mixed, give [CPMT 2004; UPSEAT 2004]

(a) $CuI_2 + K_2SO_4$ (b) $Cu_2I_2 + K_2SO_4$

(c) $K_2SO_4 + Cu_2I_2 + I_2$ (d) $K_2SO_4 + CuI_2 + I_2$

130. When *Cu* reacts with $AgNO_3$ solution, the reaction takes place is [CPMT 2004]

(a) Oxidation of *Cu* (b) Reduction of *Cu*

(c) Oxidation of *Ag* (d) Reduction of NO_3^-

131. By annealing, steel [BHU 2004]

(a) Becomes soft

(b) Becomes liquid

(c) Becomes hard and brittle

(d) Is covered with a thin film of Fe_3O_4

132. Which of the following is more soluble in ammonia [MH CET 2003]

(a) *AgCl* (b) *AgBr*

(c) *AgI* (d) None of these

133. Potassium permagnate works as oxidising agent both in acidic and basic medium. In both state product obtained by $KMnO_4$ is respestively [Kerala CET 2005]

(a) MnO_2^- and Mn^{3+} (b) Mn^{3+} and Mn^{2+}

(c) Mn^{2+} and Mn^{3+} (d) MnO_2 and Mn^{2+}

(e) Mn^{2+} and MnO_2

134. Which of the followign is the green coloured powder produced when ammonium dichromate is used in fire works [J & K 2005]

(a) Cr (b) CrO_3

(c) Cr_2O_3 (d) $CrO(O_2)$

135. Which compound does not dissolve in hot dilute HNO_3 [DCE 2002; NCERT 1977]

(a) HgS (b) CuS

(c) PbS (d) CdS

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136. The least stable oxide at room temperature is [DCE 2002]

(a) *ZnO* (b) *CuO*

(c) Sb_2O_3 (d) Ag_2O

137. Which of the following pari of elements cannot form an alloy [KCET 2005]

(a) $Zn - Cu$ (b) $Fe - Hg$

(c) Fe, C (d) Na, Hg

138. Which of the following shows dimerisation [DCE 2002]

(a) $HgCl_2$ (b) B_2H_6

(c) $TiCl_4$ (d) SO_2

139. Which of the following is also known as "Fools gold" [DCE 2003]

(a) Wurtzite (b) Iron pyrites

(c) Chalcosite (d) Silver glance

140. Which one of the following is highest melting halide [DCE 2003]

(a) *AgCl* (b) *AgBr*

(c) *AgF* (d) *AgI*

141. $4K_2Cr_2O_7 \xrightarrow{\text{heat}} 4K_2CrO_4 + 3O_2 + X$. In the above reaction *X* is [DCE 2004]

(a) CrO_3 (b) Cr_2O_7

(c) Cr_2O_3 (d) CrO_5

142. Monds process is used for [AFMC 2004]

(a) *Ni* (b) *Al*

(c) *Fe* (d) *Cu*

143. Stainless steel is an alloy of [AFMC 2004]

(a) Copper (b) Nickel and chromium

(c) Manganese (d) Zinc

144. Percentage of silver in German silver is [AFMC 2004; CPMT 1985; CBSE PMT 2000; MP PMT 2001]

(a) 0% (b) 1%

(c) 5% (d) None of these

145. Which process of purification is represented by the following scheme $\underset{\text{impure}}{Ti} + 2I_2 \xrightarrow{250^oC} TiI_4 \xrightarrow{1400^oC} \underset{\text{pure}}{Ti} + I_2$ [Kerala PMT 2004]

(a) Cupellation (b) Poling

(c) Electrolytic refining (d) Zone refining

(e) Van-Arkel process

146. Which of the following sulphides when heated strongly in air gives the corresponding metal [Kerala PMT 2004]

(a) Cu_2S (b) CuS

(c) Fe_2S_3 (d) FeS

(e) HgS

147. Guignet's green is known as [Kerala PMT 2004]

(a) $Cr_2O_3 . 2H_2O$ (b) $FeO_3 . 2H_2O$

(c) Cu_2O_3 (d) $FeCO_3 . Cr_2O_3$

(e) $FeO . Cr_2O_3$

148. Vanadium (III) oxide is a strong [Kerala PMT 2004]

(a) Drying agent (b) Oxidising agent

(c) Reducing agent (d) Wetting agent

(e) Precipitating agent

149. Stainless steel does not rust because [KCET 2004]

(a) Chromium and nickel combine with iron

(b) Chromium forms an oxide layer and protects iron from rusting

(c) Nickel present in it, does not rust

(d) Iron forms a hard chemical compound with chromium present in it.

150. The main product obtained when a solution of sodium carbonate reacts with mercuric chloride is [KCET 2004]

(a) $Hg(OH)_2$ (b) $HgCO_3.HgO$

(c) $HgCO_3$ (d) $HgCO_3.Hg(OH)_2$

151. Which of the following has diamagnetic character [Pb. CET 2003]

(a) $[NiCl_4]^{2-}$ (b) $[CoF_6]^{3-}$

(c) $[Fe(H_2O)_6]^{2+}$ (d) $[Ni(CN)_4]^{2-}$

152. The solubility of silver bromide in hypo solution due to the formation of [Pb. CET 2003; CPMT 1987]

(a) $[Ag(S_2O_3)]^{-3}$ (b) Ag_2SO_3

(c) $[Ag(S_2O_3)]^{-}$ (d) $Ag_2S_2O_3$

153. Brass is an alloy of [DPMT 1982, 83; CPMT 1972, 80, 89; MLNR 1985; AFMC 1990; Pb. CET 2004; EAMCET 1993; MP PMT 1996; KCET 2000]

(a) *Zn* and *Sn* (b) *Zn* and *Cu*

(c) *Cu*, *Zn* and *Sn* (d) *Cu* and *Sn*

154. Iodine is formed when *KI* reacts with a solution of [Pb. CET 2004]

(a) $CuSO_4$ (b) $(NH_4)_2SO_4$

(c) $ZnSO_4$ (d) $FeSO_4$

155. Rust is [Pb. CET 2004]

(a) $FeO + Fe(OH)_2$ (b) Fe_2O_3

(c) $Fe_2O_3 + Fe(OH)_2$ (d) Fe_2O_3 and $Fe(OH)_3$

156. $[Sc(H_2O)_6]^{3+}$ ion is [Pb. CET 2004]

(a) Colourless and diamagnetic

(b) Coloured and octahedral

(c) Colourless and paramagnetic

(d) Coloured and paramagnetic

157. Which of the following is called white vitriol [MP PET 1990; Bihar MEE 1995; BVP 2004]

(a) $ZnCl_2$ (b) $MgSO_4.7H_2O$

(c) $ZnSO_4.7H_2O$ (d) $Al_2(SO_4)_3$

158. $FeSO_4.7H_2O$ shows isomorphism with [BVP 2004]

(a) $ZnSO_4.7H_2O$ (b) $MnSO_4.4H_2O$

(c) $CaSO_4.5H_2O$ (d) $CaCl_2.2H_2O$

159. Which pair of compound is expected to show similar colour in aqueous medium [IIT Screening 2005]

(a) $FeCl_2$ and $CuCl_2$ (b) $VOCl_2$ and $CuCl_2$

(c) $VOCl_2$ and $FeCl_2$ (d) $FeCl_2$ and $MnCl_2$

160. Which of the following dissolves in hot conc. *NaOH* solution [CPMT 2004]

(a) *Fe* (b) *Zn*

(c) *Sn* (d) *Ag*

161. Which of the following sulphides is yellow in colour [CPMT 1983, 88, 2004; NCERT 1976]

(a) *CuS* (b) *CdS*

(c) *ZnS* (d) *CoS*

162. Which of the following is not oxidized by O_3 [IIT Screening 2005]

(a) *KI* (b) $FeSO_4$

(c) $KMnO_4$ (d) K_2MnO_4

163. The number of moles of $KMnO_4$ reduced by one mole of *KI* in alkaline medium is [CBSE PMT 2005]

(a) One fifth (b) Five

(c) One (d) Two

164. Excess of *KI* reacts with $CuSO_4$ solution and then $Na_2S_2O_3$ solution is added to it. Which of the statements is incorrect for this reaction [AIEEE 2004]

(a) $Na_2S_2O_3$ is oxidised (b) CuI_2 is formed

(c) Cu_2I_2 is formed (d) Evolved I_2 is reduced

165. The only cations present in a slightly acidic solution are Fe^{3+}, Zn^{2+} and Cu^{2+}. The reagent that when added in excess to this solution would identify and separate Fe^{3+} in one step is [IIT 1997]

(a) $2M\ HCl$ (b) $6M\ NH_3$

(c) $6M\ NaOH$ (d) H_2S gas

166. Which element is alloyed with copper to form bronze [CPMT 1972, 80, 93; CPMT 1980, 82]

(a) *Fe* (b) *Mn*

(c) *Sn* (d) *Zn*

167. Emery consists of [AFMC 1999]

(a) Impure corundum (b) Impure carborundum

(c) Impure graphite (d) Purest form of iron

168. The metal commonly present in brass and german silver is [EAMCET 1988]

(a) *Mg* (b) *Zn*

(c) *C* (d) *Al*

169. In the equation

$4M + 8CN^- + 2H_2O + O_2 \longrightarrow 4[M(CN_2)]^- + 4OH^-$ The metal *M* is [MP PET 2000]

(a) Copper (b) Iron

(c) Gold (d) Zinc

170. The term platforming is [Kerala (Med.) 2002]

(a) Platinum painting

(b) Flat sheet of platinum

(c) Platinum manufacturing

(d) Platinum used as a catalyst

171. Purple of cassium is [BHU 2002]

(a) Gold solution (b) Silver solution

(c) Copper solution (d) Platinum solution

172. Match the items under List 1 with the compounds/elements from the List 2. Select the correct answer from the sets (a), (b), (c) and (d).

List 1	List 2
(i) Explosive	(A) NaN_3
(ii)	Artificial gem (B) Fe_3O_4
(iii)	Self reduction (C) *Sn*
(iv)	Magnetic material (D) Al_2O_3
	(E) $Pb(N_3)_2$
	(F) Fe_2O_3
	(G) *Cu*
	(H) *SiC*

(a) (i) *A*, (ii) *D*, (iii) *G*, (iv) *B* (b) (i) *A*, (ii) *D*, (iii) *G*, (iv) *F*

(c) (i) *E*, (ii) *D*, (iii) *G*, (iv) *B* (d) (i) *E*, (ii) *H*, (iii) *C*, (iv) *F*

173. Blood haemoglobin contains the metal

(a) *Al* (b) *Mg*

(c) *Cu* (d) *Fe*

174. Percentage of carbon in steel is

(a) 2.5 – 4.5% (b) 0.25 – 0.5%

(c) 0.2 – 1.5% (d) 3 – 3.5%

175. Steel is manufactured from

(a) Wrought iron (b) Cast iron

(c) (a) and (b) both (d) Haematite

176. Modern method for the manufacture of steel is

(a) Bessemer process

(b) Seimen-Martin's open hearth process

(c) Duplex method

(d) L.D. process

177. Spiegeleisen is an alloy of

(a) *Fe, C* and *Mn* (b) *Fe, Mg* and *C*

(c) *Fe*, Co and *Cr* (d) *Fe*, *Cu* and *Ni*

178. Stainless steel is an alloy steel of the following metals

[MP PET 1990; Pb. PET 1999; KCET 2000]

(a) *Fe* Only (b) *Cr* and *Ni*

(c) *W* and *Cr* (d) *Ni* and *Be*

179. In the manufacture of steel, the Bessemer converter is containing lining of

(a) SiO_2 (b) CaO

(c) CaO and MgO (d) Fe_2O_3

180. Which of the following alloys contain only *Cu* and *Zn*

[DCE 1999]

(a) Bronze (b) Brass

(c) Gun metal (d) Bell metal

181. Steel becomes soft and pliable by [MP PET 1989]

(a) Annealing (b) Nitriding

(c) Tempering (d) Case hardening

182. Most stable oxidation state of iron is

[AFMC 1976; CPMT 1988]

(a) +2 (b) +3

(c) –2 (d) –3

183. Nickel steel contain % of *Ni* [MP PMT/PET 1988]

(a) 1 – 5% (b) 3 – 5%

(c) 6 – 5% (d) 8 – 5%

184. Permanent magnet is made from

[MP PET/PMT 1988; CBSE 1989]

(a) Cast iron (b) Steel

(c) Wrought Iron (d) All of these

185. In nitriding process of steel

[MP PET/PMT 1988; CBSE 1989]

(a) Steel is heated in an atmosphere of ammonia

(b) Steel is made red hot and then cooled

(c) Steel is made red hot and then plunged into oil for cooling

(d) None of these

186. Iron on reacting with carbon give

(a) FeC (b) Fe_2C

(c) Fe_3C (d) FeC_2

187. Iron loses magnetic property at [KCET 2002]

(a) Melting point (b) 1000*K*

(c) Curie point (d) Boiling point

188. Heat treatment alters the properties of steel due to

[KCET 2002]

(a) Chemical reaction on heating

(b) Partial rusting

(c) Change in the residual energy

(d) Change in the lattice structure due to differential rate of cooling

189. Pure conc. HNO_3 makes iron passive as the surface is covered with protective layer of

[Orrisa JEE 2002; EAMCET 1993]

(a) Fe_2O_3 (b) *FeO*

(c) Fe_3O_4 (d) $Fe(NO_3)_3$

190. Red hot iron absorbs SO_2 giving the product

[Orrisa JEE 2002]

(a) $FeS + O_2$ (b) $Fe_2O_3 + FeS$

(c) $FeO + FeS$ (d) $FeO + S$

191. If steel is heated to a temperature well below red heat and is then cooled slowly, the process is called

[Kerala (Med.) 2002]

(a) Tempering (b) Hardening

(c) Softening (d) Annealing

192. In smelting of iron, which of the following reactions takes place in Blast furnace at $400^oC - 600^oC$ [MP PET 2002]

(a) $CaO + SiO_2 \rightarrow CaSiO_3$

(b) $2FeS + 3O_2 \rightarrow 2Fe + SO_2$

(c) $FeO + SiO_2 \rightarrow FeSiO_3$

(d) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

193. Soil containing both *Al* and *Fe* is called [DPMT 2002]

(a) Laterite (b) Bauxite

(c) Pedalfers (d) Clay

194. German silver is an alloy of[EAMCET 1979; CPMT 1986, 93; MP PET/PMT 1998; UPSEAT 1999; CBSE PMT 2000; KCET 2000; MP PMT 2001]

(a) Copper, zinc and nickel (b) Copper and silver

(c) Copper, zinc and tin (d) Copper, zinc and silver

195. Iron is rendered passive by the action of

[IIT 1982; MP PET 1985; MP PMT 1987; DPMT 1984; KCET 1993]

(a) Conc. H_2SO_4 (b) Conc. H_3PO_4

(c) Conc. HCl (d) Conc. HNO_3

196. Iron sheets are galvanized by depositing a coating of or In galvanisation, iron surface is coated with [MP PET 1985, 86, 87, 89, 92, 96; NCERT 1980; Bihar CEE 1995]

(a) Zinc (b) Tin

(c) Chromium (d) Nickel

197. Chemical formula of rust is [BHU 1986; MP PET 1990]

(a) FeO (b) Fe_3O_4

(c) $Fe_2O_3.xH_2O$ (d) $FeO.xH_2O$

198. Heating steel to bright redness and then cooling suddenly by plunging it into oil or water, makes it [MP PET 1990]

(a) Hard and pliable (b) Soft and pliable

(c) Soft and brittle (d) Hard and brittle

199. Which of the following is found in body [CPMT 1975]

(a) Pb (b) Fe

(c) Cd (d) Al

200. Which of the following pairs of elements might form an alloy [NCERT 1981]

(a) Zinc and lead (b) Iron and mercury

(c) Iron and carbon (d) Mercury and platinum

201. Ferrous sulphate on strong heating gives

(a) SO_2 (b) $Fe_2(SO_4)_3$

(c) $FeO + SO_3$ (d) $Fe_2O_3 + SO_2 + SO_3$

202. Green vitriol is [DPMT 1985; BHU 1997; RPET 1999; JIPMER 2002]

(a) $CuSO_4.5H_2O$ (b) $FeSO_4.7H_2O$

(c) $CaSO_4.2H_2O$ (d) $ZnSO_4.7H_2O$

203. When conc. sulphuric acid is added slowly to a solution of ferrous sulphate containing nitrate ion, a brown colour ring is formed. The composition of the ring is[CPMT 1989]

(a) $[Fe(H_2O)_5NO]SO_4$ (b) $FeSO_4.NO_2$

(c) $Fe[(H_2O)_5](NO_3)_2$ (d) None of these

204. F_2 is the formed by reacting K_2MnF_6 with [AIIMS 2005]

(a) SbF_5 (b) MnF_3

(c) $KSbF_6$ (d) MnF_4

205. Railway wagon axles are made by heating rods of iron embedded in charcoal powder. The process is known as [CPMT 1972; DCE 2000; KCET 2003; UPSEAT 2001]

(a) Case hardening (b) Sheradizing

(c) Annealing (d) Tempering

206. The alloy of steel that is used in making automobile parts and utensils[EAMCET 1979; MP PMT 1992]

(a) Stainless steel (b) Nickel steel

(c) Tungstun steel (d) Chromium steel

207. Which of the following has lowest percentage of carbon [DPMT 1984; CPMT 1989, 91, 94; KCET 2000]

(a) Cast iron (b) Wrought iron

(c) Steel (d) All have same percentage

208. Galvanisation is the [CPMT 1980, 86, 91, 99; MP PET/PMT 1988; Pb. PET 1999]

(a) Deposition of Zn on Fe

(b) Deposition of Al on Fe

(c) Deposition of Sn on Fe

(d) Deposition of Cu on Fe

209. Tempered steel is

(a) Soft and pliable

(b) Hard and brittle

(c) Neither so hard nor so brittle

(d) Very soft

210. Best quality of steel is manufactured by [BHU 1996]

(a) Siemen –Martin's open hearth process

(b) Electrical process

(c) Bessemer process

(d) Blast furnace

211. The presence of Si in steel gives it

(a) Fibrous structure (b) Silicate type structure

(c) Sheet type structure (d) None of these

212. The presence of Mn in steel produces

(a) Elasticity

(b) Increases tensile strength

(c) Both (a) and (b)

(d) None of these

213. Presence of Cr in steel makes it

(a) Resistant to chemical action

(b) Useful for making cutlery

(c) Increases chemical action

(d) (a) and (b) both

214. The addition of metals like Cr, Mn, W and Ni to ordinary steel makes it

(a) More useful

(b) Alters the properties of ordinary steel

(c) Both (a) and (b)

(d) None of these

215. Stainless steel is non-corrosive. This character is more prominent in

(a) Mn steel (b) Ordinary steel

(c) Ti steel (d) All of these

216. When little vanadium is mixed with steel, it becomes

(a) More hard (b) More tensility

(c) Both (a) and (b) (d) No effect

217. To obtain steel entirely free from sulphur and phosphorus, the process used is

(a) Electrothermal process (b) Bessemer process

(c) Open-hearth process (d) Duplex process

218. Stainless steel contains ..... Cr

(a) 14% (b) 5%

(c) 50% (d) 2.5%

219. The chief constituents of steel made in India are

[MP PMT/PET 1988]

(a) Mn and Cr (b) Al and Zn

(c) V and Co (d) Ni and Mg

220. Which of the following is used to prepare medical instruments

(a) Cast iron (b) Wrought iron

(c) Steel (d) Alloy of Cu and Fe

221. A clock spring is heated to redness and then plunged into cold water. This treatment will cause it to become

[NCERT 1979]

(a) Soft and ductile (b) More springy than before

(c) Strongly magnetic (d) Hard and brittle

222. Mark the steel in which carbon % is highest

(a) Mild steel (b) Hard steel

(c) Alloy steel (d) None of these

223. Mark the variety of iron which has highest melting point

(a) Pig iron (b) Cast iron

(c) Wrought iron (d) Steel

224. Bessemer converter is used in the manufacture of [CPMT 1991]

(a) Pig iron (b) Steel

(c) Wrought iron (d) Cast iron

225. Steel contains[MP PMT 1989; KCET 2000]

(a) $Fe + C + Mn$ (b) $Fe + C + Al$

(c) $Fe + Mn$ (d) $Fe + Mn + Cr$

226. Steel differs from pig iron and wrought iron in that it contains [KCET 1991]

(a) No carbon at all

(b) Less carbon than either

(c) More carbon than either

(d) An amount of carbon intermediate between two

227. Finely divided iron combines with CO to give [MNR 1994]

(a) $Fe(CO)_5$ (b) $Fe_2(CO)_9$

(c) $Fe_3(CO)_{12}$ (d) $Fe(CO)_6$

228. Mohr's salt is[KCET 1993;DCE 1999; AIIMS 2000]

(a) $FeSO_4.7H_2O$

(b) $Fe(NH_4)SO_4.6H_2O$

(c) $(NH_4)_2SO_4.FeSO_4.6H_2O$

(d) $[Fe(NH_4)_2](SO_4)_2.6H_2O$

229. Mohr's salt is [MNR 1986]

(a) Normal salt (b) Acid salt

(c) Basic salt (d) Double salt

230. An example of double salt is [CPMT 1986; CBSE PMT 1989; Roorkee 1990]

(a) Bleaching powder (b) $K_4[Fe(CN)_6]$

(c) Hypo (d) Potash alum

231. The passivity of iron in concentrated nitric acid is due to [MP PMT 1994]

(a) Ferric nitrate coating on the metal

(b) Ammonium nitrate coating on the metal

(c) A thin oxide layer coating on the metal

(d) A hydride coating on the metal

232. The action of steam on heated iron is represented as [MP PMT 1994]

(a) $3Fe + 4H_2O \rightarrow Fe_3O_4 + 4H_2$

(b) $2Fe + 3H_2O \rightarrow Fe_2O_3 + 3H_2$

(c) $Fe + H_2O \rightarrow FeO + H_2$

(d) $2Fe + H_2O + O_2 \rightarrow Fe_2O_3 + H_2$

233. Which metal is used to make alloy steel for armour plates, safes and helmets [KCET 2003]

(a) *Al* (b) *Mn*

(c) *Cr* (d) *Pb*

234. Rusting on iron needs [MP PMT 1995]

(a) Dry air

(b) Air and water

(c) Distilled water and carbon dioxide

(d) Oxygen and carbon dioxide

235. Iron when treated with concentrated nitric acid [MP PET 1996]

(a) Readily reacts (b) Slowly reacts

(c) Becomes passive (d) Gives ferrous nitrate

236. An alloy which does not contain copper is [DPMT 1984]

(a) Solder (b) Bronze

(c) Brass (d) Bell metal

237. Which one of the following statements shows the correct percentage of carbon in steel, pig iron and wrought iron

(a) Steel containing less than 0.15% carbon; wrought iron 0.15 to 2.0% carbon; and pig iron over 2% carbon

(b) Pig iron less than 0.15% carbon; wrought iron 0.15 to 2.0% carbon; and steel over 2% carbon

(c) Wrought iron less than 0.15% carbon; steel 0.15 to 2.0% carbon; and pig iron over 2% carbon

(d) Wrought iron less than 0.15% carbon; pig iron 0.15 to 2.0% carbon; and steel over 2.0% carbon

238. In the Bessemer and open–hearth process for the manufacture of steel, which one of the following is used for the removal of carbon in part or whole

	Bessemer	Open– hearth
(a)	Ferric oxide	Air
(b)	Air	Ferric oxide
(c)	Oxygen	Scrap iron
(d)	Air	Scrap iron

239. About the basic open hearth process, which statement is wrong

(a) Limestone is added to the charge

(b) Phosphorus impurity cannot be removed by this process

(c) Carbon content of the steel can be uniformly controlled over a series of batches

(d) Iron scrap can be utilized

240. Which of the following statements is wrong

(a) Heating to a high temperature and then cooling suddenly, *e.g.* by dipping in water, makes steel hard and brittle

(b) Steel can be softened by heating it to a high temperature for a prolonged time and then cooling slowly. This is called quenching.

(c) Tempering of hardened steel is done by heating it to just below red heat at controlled temperature and duration

(d) Phosphorus impurity makes steel 'cold short'

241. Bell metal is an alloy of [DPMT 1990, 96; CBSE PMT 1999; Kerala PMT 2002]

(a) Cu, Zn and Sn (b) Cu, Zn and Ni

(c) Cu and Zn (d) Cu and Sn

242. Turnbull's blue is [Bihar CEE 1995]

(a) Ferricyanide (b) Ferrous ferricyanide

(c) Ferrous cyanide (d) Ferri-ferrocyanide

243. Addition of high proportions of manganese makes steel useful in making rails of rail-roads because manganese [IIT 1998]

(a) Gives hardness to steel

(b) Helps the formation of oxides of iron

(c) Can remove oxygen and sulphur

(d) Can show highest oxidation state of + 7

244. Copper displaces which of the metal from their salt solutions [CPMT 1988]

(a) $AgNO_3$ (b) $ZnSO_4$

(c) $FeSO_4$ (d) All of these

245. Which of the following statement(s) is(are) correct with reference to the ferrous and ferric ions[IIT 1998]

(a) Fe^{3+} gives brown colour with potassium ferricyanide

(b) Fe^{2+} gives blue precipitate with potassium ferricyanide

(c) Fe^{3+} gives red colour with potassium thiocyanate

(d) Fe^{2+} gives brown colour with ammonium thiocyanate

246. Which of the following element constitutes a major impurity in pig iron [CBSE PMT 1998]

(a) Silicon (b) Oxygen

(c) Sulphur (d) Graphite

247. Annealing is [Pune CET 1998; AFMC 2002]

(a) Heating steel in nitrogen and cooling

(b) Heating steel to bright redness and then cooling slowly

(c) Heating wrought iron with carbon to redness

(d) Heating steel to high temperature and cooling suddenly by plunging in water

248. In electroplating, the metal that is not used for plating is [Pune CET 1998]

(a) Fe (b) Zn

(c) Ni (d) Au

249. Which one of the following is a wrong statement about cast iron [KCET 1998]

(a) It is also called pig iron

(b) It contains about 4.5% carbon

(c) It is corrosion resistant

(d) It contracts on cooling

250. Iron pipes lying under acidic soil are often attached to blocks of magnesium for protection from rusting. Magnesium offers protection to iron against corrosion because it [KCET 1998]

(a) Is more readily converted into positive ions

(b) Is lighter than iron

(c) Forms a corrosion-resistant alloy with iron

(d) Prevents air from reaching the surface of iron

251. FeS_2 is [RPET 1999]

(a) Artificial silver (b) Fool's gold

(c) Mohr's salt (d) Cast iron

252. Stainless steel is an alloy of iron with [DCE 1999]

(a) 8% Cr, 50% Mn (b) 10% Ni, 2% Mn

(c) 2% Cr, 3% C (d) 12% Cr, 1% N

253. The chemical processes in the production of steel from haematite ore involve [IIT-JEE (Screening) 2000]

(a) Reduction

(b) Oxidation

(c) Reduction followed by oxidation

(d) Oxidation followed by reduction

254. The protection of steel by chrome plating is due to

[MP PMT 2001]

(a) Cathodic protection

(b) Anodic protection

(c) Covering of steel surface

(d) Formation of alloy with iron

255. The most convenient method to protect bottom of ship made of iron is [CBSE PMT 2001; Kerala (Engg.) 2002]

(a) White tin platting

(b) Coating with red lead oxide

(c) Connecting with '*Pb*' block

(d) Connecting with '*Mg*' block

256. Carbon monoxide reacts with iron to form

[KCET (Med.) 2001]

(a) $Fe(CO)_5$ (b) $FeCO_2$

(c) $FeO + C$ (d) $Fe_2O_3 + C$

257. Iron is extracted from magnetite by reduction with

[UPSEAT 2001]

(a) H_2 (b) C

(c) Mg (d) Al

258. Malachite is a mineral of

[MP PMT 1990; MP PET 1992, 98, 2000; MP PMT 1998]

(a) Zn (b) Fe

(c) Hg (d) Cu

259. The most important oxidation state of copper is

[MP PMT 1987]

(a) + 1 (b) + 2

(c) + 3 (d) + 4

260. Hot and conc. nitric acid when reacts with copper, the gas obtained is

(a) N_2 (b) Nitrous oxide

(c) NO (d) NO_2

261. Which of the following property is not expected to be shown by copper

[MP PET/PMT 1988; NCERT 1975; MP PET 1989]

(a) High thermal conductivity

(b) Low electrical conductivity

(c) Ductility

(d) Malleability

262. Which of the following metal gives more than one chloride

(a) Cu (b) Al

(c) Ag (d) Na

263. The metal which is the best conductor of electricity is

[CPMT 1996]

(a) Iron (b) Copper

(c) Silver (d) Aluminium

264. Paris green is

(a) Double salt of copper carbonate and copper nitrate

(b) Double salt of copper acetate and copper arsinite

(c) Double salt of copper acetate and copper sulphate

(d) Double salt of copper and silver nitrate

265. Reaction between the following pairs will produce H_2 except [CPMT 1973; CBSE PMT 1998]

(a) $Na +$ ethyl alcohol (b) $Fe +$ steam

(c) $Fe + H_2SO_4\ (aq.)$ (d) $Cu + HCl\ (aq.)$

266. Which of the following is correct [BHU 1995]

(a) Gun metal : $Cu + Zn + Sn$

(b) Duralumin : $Al + Cu + Mg + Ag$

(c) German silver : $Cu + Zn + C$

(d) Solder : $Pb + Al$

267. Solder is an alloy of[IIT 1995; MP PET 1995; AFMC 2005]

(a) 70% lead, 30% tin (b) 30% lead, 70% tin

(c) 80% lead, 20% tin (d) 90% *Cu*, 10% tin

268. Zinc forms two important alloys, (i) Brass and (ii) German silver. Metals present in them mainly are

(a) In (i) zinc and tin; and in (ii) zinc, silver and nickel

(b) In (i) zinc and iron; and in (ii) zinc, nickel and cobalt

(c) In (i) zinc and copper; and in (ii) zinc, copper and nickel

(d) In (i) zinc and aluminium; and in (ii) zinc, nickel and aluminium

269. One of the constituent of german silver is [IIT 1980; Kurukshetra CEE 1998; DCE 1999]

(a) *Ag* (b) Cu

(c) Mg (d) Al

270. *Gun metal* is an alloy of[MP PMT 1990; CPMT 1997]

(a) Cu and Al (b) Cu, Sn and Zn

(c) Cu, Zn and Ni (d) Cu and Sn

271. Besides Zn and Cu, german silver contains the metal [MP PET 1997]

(a) Sn (b) Ag

(c) Ni (d) Mg

272. Which metal is present in brass, bronze and German silver [CPMT 1997; AFMC 1998; AIIMS 1999; J & K 2005]

(a) Zn (b) Mg

(c) Cu (d) Al

273. Which of the following is wrongly matched

[KCET (Med.) 1999]

(a) German silver $Cu + Zn + Ni$

(b) Alnico $Fe + Al + Ni + CO$

(c) Monel metal $Cu + Zn + Sn$

(d) Duralumin $Al + Cu + Mg + Mn$

274. An extremely hot copper wire reacts with steam to give

[CPMT 1988]

(a) CuO (b) Cu_2O

(c) Cu_2O_2 (d) CuO_2

275. From a solution of $CuSO_4$, the metal used to recover copper is [MP PET 1992; CPMT 1990]

(a) Sodium (b) Iron

(c) Silver (d) Hg

276. Copper sulphate is commercially made from copper scraps by

[CPMT 1973]

(a) Dissolving in hot conc. H_2SO_4

(b) The action of dil. H_2SO_4 and air

(c) Heating with sodium sulphate

(d) Heating with sulphur

277. Cuprous ion is colourless, while cupric ion is coloured because [EAMCET 1992; BHU 2002]

(a) Both have unpaired electrons in d-orbital

(b) Cuprous ion has a completed d-orbital and cupric ion has an incomplete d-orbital

(c) Both have half-filled p and d-orbitals

(d) Cuprous ion has incomplete d-orbital and cupric ion has a completed d-orbital

278. A blue colouration is not obtained when

[CBSE PMT 1989]

(a) Ammonium hydroxide dissolves in copper sulphate

(b) Copper sulphate solution reacts with $K_4[Fe(CN)_6]$

(c) Ferric chloride reacts with sodium ferrocyanide

(d) Anhydrous $CuSO_4$ is dissolved in water

279. Identify the statement which is not correct regarding $CuSO_4$

[MNR 1992; Pb. PMT 1998]

(a) It reacts with KI to give iodine

(b) It reacts with KCl to give Cu_2Cl_2

(c) It reacts with $NaOH$ and glucose to give Cu_2O

(d) It gives CuO on strong heating in air

280. Copper sulphate solution reacts with KCN to give

[MP PMT 1992; MNR 1994; IIT 1996; AIIMS 1999; CBSE PMT 2002]

(a) $Cu(CN)_2$ (b) $CuCN$

(c) $K_2[Cu(CN)_4]$ (d) $K_3[Cu(CN)_4]$

281. If excess of NH_4OH is added to $CuSO_4$ solution, it forms blue coloured complex which is

[MP PMT 1971, 79; Bihar CEE 1995; RPET 1999; AFMC 2001]

(a) $Cu(NH_3)_4SO_4$ (b) $Cu(NH_3)_2SO_4$

(c) $Cu(NH_4)_4SO_4$ (d) $Cu(NH_4)_2SO_4$

282. Which of the following metals displaces SO_2 gas from concentrated sulphuric acid

(a) Mg (b) Zn

(c) Cu (d) None of these

283. The method of zone refining of metals is based on the principle of [CBSE PMT 2003]

(a) Greater solubility of the impurity in the molten state than in the solid

(b) Greater mobility of the pure metal than that of the impurity

(c) Higher melting point of the impurity than that of the pure metal

(d) Greater noble character of the solid metal than that of the impurity

284. A metal when left exposed to the atmosphere for some time becomes coated with green basic carbonate. The metal in question is [NDA 1999]

(a) Copper (b) Nickel

(c) Silver (d) Zinc

285. When $CuSO_4$ solution is added to $K_4[Fe(CN)_6]$, the formula of the product formed is [Bihar CEE 1995]

(a) $Cu_2Fe(CN)_6$ (b) KCN

(c) $Cu(CN)_3$ (d) $Cu(CN)_2$

286. MnO_4^- on reduction in acidic medium forms [MP PMT 1995]

(a) MnO_2 (b) Mn^{++}

(c) MnO_4^{--} (d) Mn

287. Which of the following metals will not react with a solution of $CuSO_4$ [CPMT 1996]

(a) Fe (b) Zn

(c) Mg (d) Hg

288. Which one of the following metals will not reduce H_2O [EAMCET 1997]

(a) Ca (b) Fe

(c) Cu (d) Li

289. The reaction, which forms nitric oxide, is

[KCET (Med.) 2001]

(a) C and N_2O (b) Cu and N_2O

(c) Na and NH_3 (d) Cu and HNO_3

290. A cuprous ore among the following is [KCET 2002]

(a) Cuprite (b) Malachite

(c) Chalcopyrites (d) Azurite

291. When metallic copper comes in contact with moisture, a green powdery/ pasty coating can be seen over it. This is chemically known as [AFMC 2002]

(a) Copper sulphide - Copper carbonate

(b) Copper carbonate - Copper sulphate

(c) Copper carbonate - Copper hydroxide

(d) Copper Sulphate - Copper sulphide

292. Orford process is used in extraction of

(a) Fe (b) Co

(c) Pt (d) Ni

293. Horn silver is

(a) $AgCl$ (b) Ag

(c) $AgBr$ (d) CH_3COOAg

294. Which of the following is used in photography

[CPMT 1980]

(a) $AgCl$ (b) $AgBr$

(c) AgI (d) Ag_2O

295. Silver halides are used in photography because

[MP PMT 1989]

(a) They are photosensitive

(b) Soluble in hypo

(c) Soluble in NH_4OH

(d) Soluble in acids

296. $AgCl$ when heated with Na_2CO_3 gives [CPMT 1980; MP PET 1989; MP PMT 1982, 84]

(a) Ag_2O (b) Ag

(c) Ag_2CO_3 (d) $NaAgCO_3$

297. $AgNO_3$ gives a red ppt. with [NCERT 1972; BHU 1978; MP PMT 1995]

(a) KI (b) $NaBr$

(c) $NaNO_3$ (d) K_2CrO_4

298. Silver nitrate is prepared by [CPMT 1984]

(a) The action of only conc. HNO_3 on silver

(b) Heating silver oxide with NO_2

(c) The action of hot dil. HNO_3 on silver

(d) Dissolve Ag in aqua–regia

299. $AgCl$ is soluble in [EAMCET 1992]

(a) Aqua–regia (b) H_2SO_4

(c) HCl (d) NH_3 (aq)

300. Which of the following is least soluble in water [NCERT 1974, 78; MNR 1984, 89]

(a) AgI (b) $AgCl$

(c) $AgBr$ (d) Ag_2S

301. Photographic films and plates have an essential ingredient of [CPMT 1980; CBSE PMT 1989]

(a) Silver nitrate (b) Silver bromide

(c) Sodium chloride (d) Oleic acid

302. Which of the following does not react with $AgCl$ [AIIMS 1997]

(a) $NaNO_3$ (b) Na_2CO_3

(c) $Na_2S_2O_3$ (d) NH_4OH

303. Which one of the following is known as lunar caustic when in fused state[MP PMT 1999; JIPMER 2002]

(a) Silver nitrate (b) Silver sulphate

(c) Silver chloride (d) Sodium sulphate

304. Which silver halide is used in medicine [DPMT 1996]

(a) $AgNO_3$ (b) $AgCl$

(c) $AgBr$ (d) AgF

305. When silver nitrate is heated to red hot, what is formed [CPMT 1996; NCERT 1970]

(a) Ag (b) Ag_2O

(c) Ag_2O_3 (d) AgO_2

306. For making Ag from $AgNO_3$, which of the following is used [AFMC 1998]

(a) PH_3 (b) AsH_3

(c) Na_2CO_3 (d) NH_3

307. Which one of the following reacts with concentrated sulphuric acid [EAMCET 1998]

(a) Au (b) Ag

(c) Pt (d) Pb

308. The nitrate of which metal left globule on heating strongly [JIPMER 2001]

(a) $Pb(NO_3)_2$ (b) $NaNO_3$

(c) $AgNO_3$ (d) $Cu(NO_3)_2$

309. During extraction of silver, which of the following is formed

[MP PET 2002]

(a) $Na[Ag(CN)_2]$ (b) $Na_2[Ag(CN)_2]$

(c) $Na_4[Ag(CN)_2]$ (d) None of these

310. Colourless solutions of the following four salts are placed separately in four different test tubes and a strip of copper is dipped in each one of these. Which solution will turn Blue

[MP PET 2002]

(a) KNO_3 (b) $AgNO_3$

(c) $Zn(NO_3)_2$ (d) $ZnSO_4$

311. Zinc when reacted with excess of $NaOH$ gives

[CPMT 1974, 78, 94; MP PMT 1999]

(a) Zinc hydroxide (b) Zinc oxide

(c) Di sodium zincate (d) Sodium zincate

312. Pair of metals which dissolves in $NaOH$ solution

(a) Al, Cu (b) Zn, Hg

(c) Zn, Cu (d) Zn, Al

313. *Lucas reagent* is

[CPMT 1980; AIIMS 1980, 82; DPMT 1983; MP PET 1995; MP PMT 1997, 98]

(a) Anhydrous $ZnCl_2 + conc.HCl$

(b) Hydrous $ZnCl_2 + dil.HCl$

(c) Conc. HNO_3 + anhydrous $ZnCl_2$

(d) Conc. HNO_3 + anhydrous $MgCl_2$

314. What is the effect of shaking dil. H_2SO_4 with small quantity of anhydrous $CuSO_4$

[NCERT 1975; CPMT 1975, 88]

(a) The white solid dissolves to form a colourless solution

(b) The white solid dissolves to form a green solution

(c)The white solid turns blue but does not dissolve

(d) The white solid dissolves to form a blue solution

315. Which metal is electro–deposited on iron surface to prevent rusting [MP PET 1990]

(a) Cu (b) Zn

(c) Mg (d) Pb

316. To prevent corrosion, iron pipes carrying drinking water are covered with zinc. The process involved is [CPMT 1986; MP PMT 1993; MP PET 1999]

(a) Photoelectrolysis(b) Electroplating

(c) Galvanization (d) Cathodic protection

317. From aqueous solution of $ZnSO_4$, normal zinc carbonate may be precipitated by [CPMT 1973]

(a) Boiling with $CaCO_3$ (b) Adding Na_2CO_3

(c) Adding $NaHCO_3$ (d) Passing CO_2

318. Which one of the following dissolve in hot concentrated $NaOH$ solution [IIT 1980]

(a) Fe (b) Zn

(c) Cu (d) Ag

319. Which of the following metal forms an amphoteric oxide [CPMT 1976]

(a) Ca (b) Fe

(c) Cu (d) Zn

ANSWERS AVAILABLE TOMORROW IN MY YOUTUBE CHANNEL

320. Reaction of zinc with cold and very dilute nitric acid yields [MP PET 1985, 92, 97; BHU 1995, 2000; NCERT 1974; MP PMT 1995]

(a) $Zn(NO_3)_2 + N_2O$ (b) $Zn(NO_3)_2 + NO$

(c) $Zn(NO_3)_2 + NH_4NO_3$ (d) $Zn(NO_3)_2 + NO_2$

321. The number of unpaired electrons in Zn^{2+} is

(a) 2 (b) 3

(c) 4 (d) 0

322. The trace metal present in insulin is [KCET 1991]

(a) Iron (b) Cobalt

(c) Zinc (d) Manganese

323. The chemical name of borax is[CPMT 1994]

(a) Sodium orthoborate

(b) Sodium metaborate

(c)Sodium tetraborate

(d) Sodium tetraborate decahydrate

324. Hydrogen is not obtained when zinc reacts with [CPMT 1994]

(a) Cold water (b) Dilute H_2SO_4

(c) Dilute HCl (d) Hot 20% $NaOH$

325. The metal which gives hydrogen on treatment with acid as well as sodium hydroxide is[MP PET 1996]

(a) Iron (b) Zinc

(c) Copper (d) None of the above

326. To protect iron against corrosion, the most durable metal plating on it, is [CBSE PMT 1994]

(a) Nickel plating (b) Tin plating

(c) Copper plating (d) Zinc plating

327. The compound $ZnFe_2O_4$ is [Kerala (Engg.) 2002]

(a) A normal spinel compound

(b) Interstitial compound

(c) Covalent compound

(d) Co-ordination compound

328. ZnO when heated with BaO at $1100\,^{\circ}C$ gives a compound. Identify the compound [AFMC 2002]

(a) $BaZnO_2$ (b) $BaO_2 + Zn$

(c) $BaCdO_2$ (d) $Ba + ZnO_2$

329. *Zn* gives hydrogen gas with H_2SO_4 and HCl but not with HNO_3 because [CBSE PMT 2002]

(a) NO_2 is reduced in preference to H_3O^+

(b) HNO_3 is weaker acid than H_2SO_4 and HCl

(c) Zn acts as oxidising agent when reacts with HNO_3

(d) In electrochemical series Zn is placed above the hydrogen

330. The metal used for making radiation shield is [Kerala (Med.) 2002]

(a) Aluminium (b) Iron

(c) Zinc (d) Lead

331. Which of the following metal is obtained by leaching out process using a solution of $NaCN$ and then precipitating the metal by addition of zinc dust [NCERT 1984; AIIMS 1983; CBSE PMT 1989]

(a) Copper (b) Silver

(c) Nickel (d) Iron

332. While extracting an element from its ore, the ore is ground and leached with dilute KCN solution to form the soluble product potassium argentocyanide. The element is [CBSE PMT 1989]

(a) Lead (b) Chromium

(c) Manganese (d) Silver

333. In Mc Arthur Forest method, silver is extracted from the solution of $Na[Ag(CN)_2]$ by the use of:[CPMT 2004]

(b) *Fe* (b) *Mg*

(c) *Cu* (d) *Zn*

334. Iron obtained from blast furnace is known as [DPMT 1981; CPMT 1988; MP PET 2000]

(a) Wrought iron (b) Cast iron

(c) Pig iron (d) Steel

335. Extraction of silver from commercial lead is possible by [BHU 1979]

(a) Mond's process (b) Park's process

(c) Haber's process (d) Clark's process

336. Impurities of lead in silver are removed by [AIIMS 1987]

(a) Park process (b) Solvey process

(c) Cyanide process (d) Amalgamation process

337. Park's process is used in the extraction of [BHU 1977; CBSE PMT 1992; MP PMT 1996; Kurukshetra CEE 1998]

(a) Iron (b) Zinc

(c) Silver (d) Lead

338. From argentite (Ag_2S) ore the method used in obtaining metallic silver is [MP PMT 1989]

(a) Fused mixture of Ag_2S and KCl is electrolysed

(b) Ag_2S is reduced with CO

(c) Ag_2S is roasted to Ag_2O which is reduced with carbon

(d) Treating argentite with $NaCN$ solution followed by metal displacement with zinc

339. In the extraction of zinc which gas is burnt in the jackets surrounding the retorts

(a) Water gas (b) Producer gas

(c) Oil gas (d) Coal gas

340. MacArther process is used for[BHU 1995]

(a) Hg (b) Fe

(c) Cl (d) O_2

341. In the metallurgy of zinc, the zinc dust obtained from roasting and reduction of zinc sulphide contains some ZnO. How is this removed [MP PET 1993; AFMC 2002]

(a) Absorbance of ultraviolet light and re-emission of white light is employed

(b) Shock cooling by contact with a shower of molten lead is done

(c)X–ray method is used

(d) Smelting is employed

342. In the metallurgy of copper, metallic copper is finally formed in the furnace by the reactions

(a) $Cu_2S + O_2 \rightarrow 2Cu + SO_2$

(b) $2CuS + 3O_2 \rightarrow 2CuO + 2SO_2$

$2CuO + CuS \rightarrow 3Cu + SO_2$

(c) $2Cu_2S + 3O_2 \rightarrow 2Cu_2O + 2SO_2$

$Cu_2S + 2Cu_2O \rightarrow 6Cu + SO_2$

(d) $CuS + O_2 \rightarrow Cu + SO_2$

343. In the smelting of roasted copper pyrites ore, melting occurs so that the first reaction is

(a) All the sulphur preferentially combines with iron to form FeS and CuO is formed

(b) All the sulphur preferentially combines with copper to form CuS and FeO is formed

(c) All the sulphur preferentially combines with iron to form FeS and Cu_2O is formed

(d) All the sulphur preferentially combines with copper to form Cu_2S and FeO is formed

344. In the oxidation of Cu, the reaction which takes place in bessemer converter is [CPMT 1999]

(a) $2CuFeS_2 + O_2 \rightarrow Cu_2S + FeS + SO_2$

(b) $2Cu_2S + 3O_2 \rightarrow 2Cu_2O + 2SO_2$

(c) $2Cu_2O + Cu_2S \rightarrow 6Cu + SO_2$

(d) $2FeS + 3O_2 \rightarrow 2FeO + 2SO_2$

345. Silica is added to roasted copper ore during smelting in order to remove [KCET 1998]

(a) Cuprous sulphide (b) Cuprous oxide

(c) Ferrous oxide (d) Ferrous sulphide

346. Parke's process is used to extract [MP PMT 2002]

(a) Silver using $NaCN$

(b) Copper using $CuFeS_2$

(c) Silver from argentiferrous lead

(d) Silver by forming amalgam

347. Identify the reaction that doesn't take place during the smelting process of copper extraction [KCET 2003]

(a) $2FeS + 3O_2 \rightarrow 2FeO + 2SO_2 \uparrow$

(b) $Cu_2O + FeS \rightarrow Cu_2S + FeO$

(c) $2Cu_2S + 3O_2 \rightarrow 2Cu_2O + 2SO_2 \uparrow$

(d) $FeO + SiO_2 \rightarrow FeSiO_3$

348. The extraction of which of the following metals involves bessemerisation [DCE 2004]

(a) *Fe* (b) *Ag*

(c) *Al* (d) *Cu*

349. Bessemer converter is used for[AFMC 2004]

(a) Steel (b) Wrought iron

(c) Pig iron (d) Cast iron

350. In the cyanide process for the extraction of silver, sodium cyanide is used to [MP PMT 1994]

(a) Convert silver into a soluble silver complex

(b) Reduce silver

(c) Precipitate silver

(d) Oxidise silver

351. Parke's process of desilverization of lead depends upon

(a) Partition coefficient of silver between molten zinc/molten lead having a high value

(b) Partition coefficient of silver between molten zinc/molten lead having a low value

(c) Crystallizing out of pure lead while the silver–lead eutectic which has a lower melting point is left behind in liquid form

(d) Chemical combination of zinc and silver which precipitates out easily

352. Which is impure form of iron

(a) Cast iron (b) Wrought iron

(c) Steel iron (d) None

353. Blister copper is [CPMT 1976, 85, 2002;

DPMT 1982; MP PET 1995; Bihar CEE 1995]

(a) Pure copper (b) Ore of copper

(c) Alloy of copper (d) 1% impure copper

354. In the extraction of copper when molten copper is cooled slowly, blister copper is obtained due to evolution of the following gas

(a) Water vapour (b) Sulphur dioxide

(c) Carbon dioxide (d) Carbon monoxide

355. In the electrolytic purification of copper some gold is found in the [CPMT 1972; AFMC 1995; RPET 2003]

(a) Cathode (b) Cathode mud

(c) Anode mud (d) Electrolyte

356. Purest form of iron is

[CPMT 1975, 80, 84, 87, 89; DPMT 1982, 83; MP PMT 1987, 90, 91; MP PET 1995; BHU 1999; MH CET 2003]

(a) Cast iron (b) Wrought iron

(c) Hot steel (d) Stainless steel

357. *Spelter* is [CPMT 1988]

(a) Impure Cu (b) Impure Zn

(c) ZnO (d) CuO

358. A copper coin is completely covered with a gold film and is placed in dilute HNO_3. This will result in formation of

[CPMT 1981]

(a) Gold nitrate (b) Copper nitrate

(c) None of these (d) Purple of cassins

359. When zinc is added to $CuSO_4$ copper gets ppt. due to

[CPMT 1979]

(a) Reduction of copper ions

(b) Oxidation of copper ions

(c) Hydrolysis of copper sulphate

(d) Complex formation

360. Addition of iron filings to $CuSO_4$ solution caused precipitation of Cu owing to the [CPMT 1990]

(a) Reduction of Cu^{++}

(b) Oxidation of Cu^{++}

(c) Reduction of Fe

(d) Reduction of Fe^{+++}

361. Oxygen gas can be prepared from solid $KMnO_4$ by [DPMT 2001]

(a) Strongly heating the solid

(b) Treating the solid with H_2 gas

(c) Dissolving the solid in dil. H_2SO_4

(d) Dissolving the solid in dil. HCl