SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code: BIOLOGY FOR ENGINEERS(18HS0803) **Branches:MECH,CIVIL,EEE**
Year &Sem: II-B.Tech&I-Sem **Regulation:** R18

UNIT –I (INTRODUCTION & CLASSIFICATION OF ORGANIS

1. (a) Define biology? (2M)
   (b) What is autotrophs and heterotrophs (2M)
   (c) Define taxonomy? (2M)
   (d) What are the three domines(kingdoms) of life? (2M)
   (e) What is cell? (2M)

2. (a) Draw ultra structure of Prokaryotic cell. (4M)

   (b) Compare the characteristics of Prokaryotic and Eukaryotic cell. (6M)

3. What are Model organisms? Give brief notes n any three model organisms. (10M)

4. (a) Classify Kingdom Protista and Kingdom Animalia. (6M)

   (b) Write short notes on unicellular and Multicellular with examples. (4M)
5. (a) Explain mode of excretion in Urioteliic organisms. (6M)
   (b) write carbon and Energy Utilization in lithotrophs (4M)
6. (a) Define Habitat. Explain Terrestrial Habitat. (5M)
   (b) How autotrophs utilize carbon and energy? (5M)

7. Write the differences between Plant cell and Animal cell. (10M)
8. (a) Define classification. (3M)
   (b) What are the Divisions in Kingdom Plantae? (7M)
9. Describe Amminotelsim and Uricotelism. (10M)

10. Draw labeled diagram of Animal cell as seen in Electron microscope.
    Comment on characteristics of Animal cell. (10M)
11. Explain about mitochondria termed has ‘power houses’ of Eukaryotic? (10M)

UNIT-II (GENTICS PURPOSE)

1. a). What is cell cycle? (2M)
   b). What is meiosis? (2M)
   c). Define mendel 1st & 2nd law. (2M)
   d). Give an account on dominant & recessive uses. (2M)
   e). What is gene mapping? (2M)

2 .What are the three Laws of Inheritance proposed by Mendel? Explain Monohybrid cross . [10M]

3 . Define gene Interaction. Give brief account on Dominant Epistasis with suitable example. [10M]

4. (a) Describe Complementary Gene Interaction. [5M]

   (b) Give an account on Duplicate Gene Interaction. [5M]

5. (a) Explain Phenylketonuria. [5M]

   (b) Explain about Albinisim. [5M]

6. Explain Meiosis with diagrammatic representation . [10M]

7. Discuss on Gene Mapping. [10M]

8. Give an account on Law of Independent Assortment [10M]

9. What is Mitotic Cell division? Explain Mitosis with neat diagram. [10M]

10. Give an account on Down's syndrome. [10M]

11. Define Genetics and explain Dihybride cross. [10M]

UNIT-III (BIOMOLECULES PURPOSE & ENJYME PURPOSE)

1. (a)What are polysaccharides? (2M)
   (b) Write any four functions of proteins? (2M)
   (c) List the two types of lipids and their functions? (2M)
   (d) How many types of nucleic acids are there? And write any two functions. (2M)
   (e) List some important organic compounds present in living organisms? (2M)
2. Define enzymes and its role in plants? (10M)
3. Describe the enzyme nature, properties and nomenclature? (10M)
4. Describe the enzyme action and kinetics? (10M)
5. What are lipids? Classify and explain different types of lipids. (10M)
6. What are the macro molecules and its types? Write the functions of macro molecules. (10M)
7. What are carbohydrates? Classify and explain mono saccharides. (10M)
8. Biological classification of amino acids and their importance. (10M)
9. Describe the
   a) RNA catalysis. (5M)
   b) Kinetic parameters related too biology. (5M)
10. Define polysaccharides with suitable examples. (10M)
11. Explain about mechanism in Enzymes. 10M

UNIT 4

(FORMATION TRASFER PURPOSE & MACROMOLECULAR ANALYSISS PURPOSE)

1. a) Distinguish between DNA and RNA ? (2M)

   b) Draw a neat diagram of DNA double helix structure ? (2M)

   c). What is complimentary on ? (2M)

   d) Write full form of M-RNA& TRNA & their functions ? (2M)

   e) What are the two purines & Pyramidines of DNA ? (2M)

2. Explain genetic code & Degeneracy of genetic code? (10M)

3. Explain & Describe the R-DNA technology methods? (10M)

4. Define trans genic plants & it's applications? (10M)

5. Give brief account on hierarchy of DNA structure from single stand to double helix? (10M)

6. Explain about on Genetic material of DNA? (10M)

7. Explain

   a. coding and decoding genetic information transfer . (5M)

   b. R-DNA duplication. (5M)

8. Give an account on

   a. Proteins as enzymes. (5M)

   b. Protein as Structural elements. (5M)

9. What are the functions & Structure of Proteins? (10M)

10. Explain gene- complementation and recombination (10M)

11. Describe Double Helical structure of D.N.A. (10 M)

UNIT-5 (METABALIC PURPOSE)

1. a). What are the photosystems ? (2M)

b). Difference between aerobic & unerobic respiration ? (2M)

c). What are the general futures of TCA cycle ? (2M)

d). What is sterilization? (2M)

e). Define stem cells & their functions? (2M)

2. Define glycolysis in detail. (10M)
3. Define kerbs cycle in detail. (10M)
4. Explain identification and classification of microorganisms. (10M)
5. What are the principles of energy transaction in physical and biological world? (10M)
6. Give an account on energy yielding and energy consuming reactions? (10M)
7. Define the sterilization process and media compositions. (10M)
8. Explain
   a) ATP as energy currency (5M)
   b) Photosynthesis (5M)
9. What are the growth kinetics. (10M)
10. Define exothermic and endothermic reactions. (10M)
11. Explain about classification and identification of micro organism. (10M)

SIDDARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

BIT BANK

Subject with Code: BIOLOGY FOR ENGINEERS(18HS0803) **Branches:MECH,CIVIL,EEE**
Year &Sem: II-B.Tech&I-Sem **Regulation:** R18

UNIT-I

1. Name the type of bacteria which uses Co_2 as a solar source of carbon for growth. [ ]
   (A)Organotrophs (B)Heterotrophs (C) Autotrophs (D) Lithotrophs
2. Name those bacteria which obtain energy from chemical compounds? [ ]
   (A) Chemotrophs (B)Phototrophs (C) Organotrophs (D) Lithotrophs
3. Name the type of bacteria which uses reduced inorganic substances as an electron sources
   (A)Autotrophs (B) Chemotrophs (C) Organotrophs (D) Lithotrophs [ ]
4. The science of identifying, classifying and naming living things is called? [ ]
   (A)Genus (B)Binomial Nomenclature(C)kingdom (D) Taxonomy
5. An organism structure is called genus class morphology species [ ]
   (A)Genus (B)class(C)morphology (D) species
6. Final classification also the last name in a Binomial Nomenclature? [ ]
   (A)Genus (B)class (C)Family (D) species
7. The basic units of structure and functions for both plants and animals are [ ]
   (A)cell(B)organs (C)Tissues (D)systems
8. Lowest category of taxonomic hierarchy is? [ ]
   (A)Taxon(B)rank (C) species (D) genus
9. How many obligate categories are there in taxonomic hierarchy [ ]
   (A)5(B)6 (C)7(D)4
10. Who is the the father of Biology for zoology ? [ ]
    (A)Aristotle (B)Theophrastus (C)William Roxburgh (D)Mendal
11. The three kingdom classification, the Kingdom prostia includes [ ]
(A).unicellular Eukaryotic organisms only
(B).unicellular prokaryotic organism only
(C).Wide variety of unicellular ,mostly aquatic eukaryotes.
(D). Mostly terrestrial prokaryotes.
12.The major waste produced by human body are [ ]
   (A)carbondioxide (B) urea (C)both A and B (D)only B
13. What type of nitrogenous wastes are excreated by living organisms ? [ ]
   (A)Ammonia (B)Uric acid(C)Urea (D)All the above
14. Eukaryotes are, [ ]
(A)unicellular (B) multicellular(C)both (D)neither
15.Bacteria is what kind of cell? [ ]
(A)Eukaryotic (B) prokaryotic (C) both A and B (D)None of the Above.
16. The dark reaction in photo synthesis is called so because it? [ ]
   (A)Cannot occur during day time (B)It is light dependent
   (C)It is light independent (D)Occurs rapidly at night

17. Which term is synonymous with producer ? [ ]
(A) Autotroph (B)Heterotroph(C)consumer (D)Decomposers
18. What is isherbivors? [ ]
(A) An animals that gets energy from eating other animals
(B) Anorganisms that gets energy from eating only plants
(C) Animals that gets energy biting both plants and other animals
(D) None
19.Which of the following is called as "Drosophila" of the plant Kingdom ? [ ]
(A)E.Coli (B)Drosophila (C)M.musculus (D)Arobidopsisthalina
20. The most widely used model for studying developmental biology and neurology [ ]
(A)E.Coli (B)S.Cervisea (C) C.eligans (D) D.Melanogasters
21. Binomial Nomenclature includes [ ]
(A)Genius,family (B) Genius,species (C) Genus, Sub- family (D)Species,sub-species
22. The lowest level of organization among the following is [ ]
(A) Biosphere (B)Ecosystem (C)Population (D)Community
23. The taxon"phylum" was introduced by [ ]
(A) Haeckel (B) John Ray (C) A.Pdecondolle (D)Cinnacus
24.Prokaryotic and Eukaryotic cells are generally have which of the following features in common?
(A)Membrane -bounded nucleus [ ]
(B) A cell wall made of cellulose (C) Ribosomes
(D)flagella (or) cillia that contains micro tubules
25.The organisms which can use reduced inorganic compounds as electron donors are known as
(A)chemotrophs (B)organotrophs (C)lithotrophs (D)phototrophs [ ]
26 the process of acquiring oxygen from outside the body for Cellular needs is called [ ]
(A)respiration (B)digestion (C)Oxidising (D)excretion
27 following are autotrophs [ ]
(A)green plants (B)some bacteria (C)both a and b (D)enzymes
28. Carbon and energy requirements of the autotrophic organism are fulfilled by [ ]
(A)enzymes(B)photosynthesis (C)bacteria (D)None of the Above
29.Urea production occurs almost exclusively in [ ]
(A) Kidneys(B)liver(C)blood (D)urine
30. The carbon atom source while producing urea in the urea cycle is, [ ]
(A)carbon dioxide (B) glucose (C)aspartic acid(D)Arginine
31. Urea cycle converts [ ]
(A)Keto acids into amino acids (B)Ammonia into a less toxic form
(C)Amino acids into keto acids (D)Ammonia into a more toxic form
32. How many types of Aquatic ecosystems are there? [ ]
(A)1 (B)2 (C)3 (D)4
33 where plants and animals live in aquatic ecosystems [ ]
(A) Water (B)land (C)Air (D)Fire
34. Where we can find both running water as well as stagnant water [ ]
(A)Marine ecosystem (B)wetlands (C)coral reefs (D)freshwater ecosystems
35.The organism used to study DNA replication [ ]
(A)Neurosporacrassa (B)Drosophila melanogaster (C)Escherichia coli (D)Bacillus sublitis

36.Saccharomycescervisiaeis an example of ? [ ]
(A)fungi (B)Yeast (C)bacteria (D)Insect
37.Musmusculus is used for research [ ]
(A)Cancer Research (B)To develop Genethrophy (C)Both a and b (D)none of the above
38.Which of the following types of genetic manipulations allow a researcher to experimentally increase give expression Mouse model ? [ ]
(A) Knocking (B) conditional knockout (C)Transgenic (D)knockout
39 which relates to why choosing an appropriate promoter is important when developing transgenic organism? [ ]
(A)It directs where the DNA construct will be Incorporated
(B) It regulates the level and pattern of expression
(C) It is not important because enhancers regulate given expression
(D) It promotes stable, reliable,genetic incorporation into the host.
40.Which of the following organisms considered to be premier model organisms for the genetic analysis of animal development [ ]
(A)Drosophila (B)C.elegans (C)Drosophila &C.elegans (D)All the above

UNIT-II

Biology for engineers

1. Crossing over occurs in which phase? [ ]
(A) Telophase-I (B) Metaphase-II
(C) Prophase-I (D) Prophase-II
2. Meiosis-I is? [ ]
(A) Equational division (B)Homotypic division
(C) Reductional division (D) multiplication division
3. DNA replication occurs in ? [ ]
(A) S phase (B) G1 phase
(C) G2 phase (D) M phase
4.------ represents the most active stage of the cell cycle. [ ]
(A) Metaphase (B) Anaphase
(C) Telophase (D) Interface
5. Two daughter cells formed after mitosis are? [ ]
(A) Non-identical to each other (B) Identical to each other
(C) Non-identical to parents (D) Irregular in size
6.The homologous chromosomes move towards the opposite poles during [ ]
(A) Anaphase-I (B) Anaphase-II
(C) leptotene (D) Pachytene
7. The chromosomes align at the equator during? [ ]
(A) Interphase (B) prophase
(C) Metaphase (D) Telophase
8. Which of the following is untrue about the the genome mapping? [ ]
(A) It doesn't lead to the understanding a genome structure
(B) It involves identifying a relative locations of genes.
(C) It involves identifying traits (D) It identifying mutations.
9. Genetic markers are_____ portions of a _____whose inheritance pattern can be followed.
(A) unidentifiable, genes (B) unidentifiable, chromosome [ ]
(C) Identifiable, chromose (D) identifiable, genes
10. one chromosome is defined as_____ percentage of the the total recombination events
(A)one (B) ten (C)0.1 (D) 0.01 [ ]
11 .In case of two gene interaction, the gene which is masking the expression of another is called_____ and the gene whose expression is is masked is called____ [ ]
(A) Dominant, Recessive (B) Recessive, Dominant
(C)Epistatic, hypostatic (D) Hypostatic, epistatic
12.Epistatis is the interaction between_____ genes [ ]
(A)2 (B)4 (C) 8 (D) 16
13. What is the dihybrid phenotypic ration for recessive epistasis in an F2 generation? [ ]
(A)9:3:3:1 (B) 9:6:1 (C) 9:3:4:1 (D) 9:3:4
14. Which of the following has dominant allele in both gene locus? [ ]
(A) Black (B)Albina
(C) Agouti (D) White
15 .In case of dominant epistasis which of the following will have the same expression, when 'A' is is the epistatic locus? [ ]
A) AaBa and aaBb (B) AAbb and AABb

(C) aaBb and AABb (D) aaBb and aaBB

16. Which of the following is not the case of epistasis? [ ]

(A) furcolour in mouse (B) Fruit colour in summer squash

(C) Fruit shape in summer squash (D) Coat colour in Labrador

17 .In case of Summer squash, the 'W' locus shows dominant epistasis over the 'Y' locus. 'W' locus develop white colour while 1- give yellow and YY gives green. If you cross yellow and green summer squash you can't get yellow green white you can get _____ [ ]

(A) Yellow (B) Green

(C) White (D) you can't get all

18 .Mendel used____ for his experiments. [ ]

(A) Pisumsativam or Garden pea (B) Paisum album

(C) Oryza sativa (D) Oryzaorientalis

19 .Which of the following relationship was not studies by Mendel? [ ]

(A) flowercolour and seed colour (B) Height and seed colour

(C) flowercolour and shape of pollen grain (D) height and seed coat colour

20.Choose the odd one out_ green pod, yellow seed, purple flower, terminal flower. [ ]

(A) Green pod (B) Yellow seed

(C) Purple flower (D) Terminal flower

21 .Which of Mendel's loss will be violated by linkage? [ ]

(A) Panspermia (B) Dominance

(C)Segregation (D) Independent assortment

22.Considering the concept of multiple alleles, one organism can have____ alleles. [ ]

(A) One (B) Two (C) Three (D) Four

23. It is confirmed that phenotype of short pea plant height will be expressed only when_____?

(A) Both the parents are tall (B) One parent is tall and other short [ ]

(C) The seeds are generated by selling (D) Both parents are short

24.'tt" mates with Tt.what will be the characteristic of offspring? [ ]

(A)75% Recessive (B)50% Recessive

(C)25% Recessive (D)All dominant

25.Mandal did not give? [ ]

(A) Concept of gene (B) Concept of inheritance

(C) concept of dominance (D) concept of chromosomes

26. Who is known as the father of genetics? [ ]

(A)Erich Tschemark (B) Carl correns

(C) Gregor Johann mendal (D) Hugo series

27. What is an allele? [ ]

(A) Characteristics of an organism (B) Alternate form of Genes

(C) Homologous chromosomes (D) Pair of centroils

28. Which of the following is not mendel's law of inheritance? [ ]

(A) Law of dominance (B) Law of segregation

(C) Law of heterozygous (D) Law of independent assortment

29.Out of the following, which is also known as the law of purity of gametes? [ ]

(A) Law of co-dominance (B) Law of independent assessment

(C) Law of segregation (D) Law of dominance.

30. Which of the following is known as Royal disease? [ ]
(A) Sickle cell anaemia (B) Haemophilia
(C) Alzheimer's disorder (D) Colour blindness.
31. Down's syndrome is characterised by? [ ]
(A) 19 trisomy (B) 21 trisomy
(C) only one X chromosome (D) two X and one Y chromosome
32.The syndrome in which individual somatic cell contains three sex chromosome 'xxx' is called?
(A) Down's syndrome (B) Super female [ ]
(C) Turner's syndrome (D) Klinefelter's syndrome
33. Aman has enlarged breasts,spare hair on body and sex compliment 'XXY' ,he suffers from
(A) Down's syndrome (B) Klinefelter's syndrome [ ]
(C) Turner's syndrome (D) Edward's syndrome
34. In a family,father is having a disease and mother is normal. The disease inherited to only daughters and not to the sons. What kind of disease is this? [ ]
(A)Sex linked dominant (B) Sex linked recessive
(C) Autosomal dominant (D) Autosomal recessive
35. A colour blind girl is rare because she will born only when? [ ]
(A) Her mother and maternal father were colour blind
(B) Her father and maternal grandfather colour blind
(C) Her mother is colour blind and father has normal vision
(D) Parents have normal vision but grandparents were colour blind.
36. In human beings 45 chromosomes single x/xo abnormality causes [ ]
(A) Down's syndrome (B) klinefelter's syndrome
(C) Turner's syndrome (D) Edward's syndrome
37.The process of transfer of hereditary character from one generation to another is known as_____?
(A) Genes (B) Mutation (C) variation (D) genetics [ ]
38.Name the chromosome found in the cells which are responsible for characters rather than sex chromosomes? [ ]
(A) Autosomes (B) Genome
(C) Mitochrical chromosome (D) Y- chromosome
39. A sudden change in the Gene which is heridable from one generation to another is known as ? [ ]
(A) variation (B) Cloning
(C) Totipotency (D) Mutation
40. What is a complementation test? [ ]
(A) A cross that can identify if a phenotype is caused by mutations within the same gene or different genes.
(B) A cross that can identify if a mutation at one Genie locus is recessive
(C) A cross that can identify if a mutation at one gene locus is dominant
(D) A test to see if two genes affect each other.

UNIT-III

1. 1. The sub unit of polymerase has a function of____ [ ]
(A)Promoter binding (B) Elongation (C) cation binding (D) termination

2. The bacterial system has RNA___ polymerases [ ]
(A)1(B) 2(C)3 (D) 4
3.Micromolecules described as large molecules built up from small repeating units called as which of the following? [ ]
(A) Biopolymers (B)Dimers (C) Monomers (D) Metamers
4. Carbohydrates are polyhydroxy compounds of ___ [ ]
(A) Glucose (B)oligosaccharides(C)aldehyde and ketones (D)glyceraldehyde
5. There are several levels of protein structure, which is the most complex protein?
(A) primary (B) secondary (C) tertiary (D)quaternary [ ]
6. Anylose is a soluble in which of the following solvent? [ ]
(A) Alcohol (B)Water(C)partially soluble in alcohol(D) soluble in acidic solution
7.Animals store glucose in the form of which are macromolecules? [ ]
(A) Amylose (B)Glycogen(C)Glycerol (D)cellulose
8.In the formation of macromolecules what type of bond would join two amino acid subunits?
(A) Iconic Bond (B) Phosphodiester bond (C) Hydrogen bond (D)peptide Bond [ ]
9.Carbohydrates are also known as____ [ ]
(A)Hydrates of carbon (B)carbonates(C) Glycolipids (D)polysaccharides
10.Which class of carbohydrates is considered as non sugar? [ ]
(A)Monosaccharides(B) Disaccharides (C) polysaccharides (D)Oligosaccharides
11.Whih of the following is also known as invert sugar? [ ]
(A)Sucrose (B)Fructose (C)Dextose (D)Glucose
12.Name the major storage form of carbohydrates in animals?
(A) Cellulose (B) Chitin (C)Glycogen(D)Starch [ ]
13.Essential fatty acids are?
(A) Linoleic acid (B)Arachidonic acid(C) linolenic acid (D)All of these
14.Examples of Mono and saturated fatty acids are? [ ]
(A)oleic acid (B)Arachidonic acid (C)Palmitic acid (D)linolenic acid
15.Simple lipids includes [ ]
(A)Dils(B)waxes(C)fats(D)all of Adove
16.Enzymes are also named as: [ ]
(A) Biological catalyst (B)The catalyst of life (C) cytochromes (D) all of above
17.Identify the purine base of nucleic acids in the following [ ]
(A)Cytocine(B) Thymine (C)Uracil(D)Adinine
18.What is the composition of nucleotide? [ ]
(A) a sugar +a phosphate (B) a base + a sugar (C)a base + a phosphate
(D) a base + a sugar + a phosphate
19.The sugar molecule in a nucleotide is [ ]
(A)pentose (B) Hexose (C) Tetrose(D) Triose
20. Building blocks of nucleic acids are [ ]
(A) Nucleotides (B) Nucleosides (C)Amino acids (D)Histones
21.Elements which are good catalysts and have abilities to change their oxidation number are
(A)Transition elements (B)Nobel gases (C)Alkalis (D) all of them [ ]
22.Changes in oxidation number of ions which are involved in catalyst is done in
(A) Homogeneous catalyst (B) Heterogeneous catalyst [ ]

(C)Hypergeneous catalyst (D) Hypogenous catalyst

23. Enzyme which helps in changing shape of the molecule is called [ ]
(A) ligases (B) Dehydrogenases (C) hydrolases (D) Isomerases

24.Transmethylases helps in transfer of___ [ ]
(A)Methyl group (B)Ethyle group (C) Amino group (D) Acetyl group

25. ligases helps in the [ ]
(A)splitting of two molecules (B) joining of molecules
(C) oxidation of molecules (D) both B and C

26. Enzymes which are involved in transfer of electrons are [ ]
(A) oxidases(B) dehydrogenases (C) both a and b (D) hydrolases

27.Model proposed by Emil Fisher is known as [ ]
(A)Arrow and shield model (B) Deduction model
(C)Induction model (D) lock and key model

28. Reactions are catalyzed by [ ]
(A)Nitrogen (B) potassium (C)Enzyme (D)Magnesium

29.The molecule which acts directly on an enzyme to lower its catalytic rate is
(A)Repressor (B)Inhibitor(C) Modulator (D)Regulator [ ]

30.Which of the following is an example for Irreversible inhibitor?
(A) Disulfiram (B) Oseltamivir (C)Protese inhibitors (D)DIPF

31. Where does inhibitor binds on enzyme in mixed inhibition? [ ]
(A)At active site (B) Allosteric site
(C)Does not bind on enzyme (D) Binds on substrate

32. Molecules which play the key role in the transfer of transfer of genetic [ ]
information during Protein synthesis are ____
(A)DNA (B) RNA (C) Nucleic acid (D) lipids

33.Which of the following RNA molecule convert information stored in the nuclic acid to protein ?
(A) mRNA (B) snRNA (C) rRNA (D) tRNA [ ]

34.Name the secondary structure of RNA? [ ]
(A) cloverleaf (B)L_shaped (C)duplex (D) priplettel

35.Which out of the following is a substrate species enzyme? [ ]
(A) Hexokinase (B) Thiokinase (C) Lactose (D) Decarbolase

36.What is the nature of the enzyme? [ ]
(A) Vitamin (B) Lipid (C) Carbohydrate (D) protein

37.Name of the coenzyme of riboflavin(B2)? [ ]
(A) NAD (B) FAD and FMN (C) Coenzyme (D) Thiamine pyrophosphate

38.Which of these vitamin is associated with the engine biocytin? [ ]
(A) Nicotinic acid (B)Thiamine (C)Biotin (D) Pyridoxine

39.Name the enzyme secreated bye pancreas? [ ]
(A)Pepsin (B) Chymotrypsin (C)Trypsin (D)Alcohol dehydrogene

40.Which of these are rare amino acid in a protein? [ ]
(A) Leueine and serine (B) Lysin and glutamic acid
(C) Tryptophane and Methionine (D) Leucine and lysine

UNIT-IV

1.Which of the following is not a feature of feature of genetic code? [ ]
(A)Triplet (B) Degenerate (C) Non-overlapping (D)Ambiguous
2. The codon is a___ [ ]
(A)singlet(B)Duplet (C)Triplet (D)Quadruplet
3.Which of the following is not a termination codon? [ ]
(A) UGA (B) AGA (C)AGG (D)UAC
4.In case of Mitochondrial genetic code UGA is a _____codon. [ ]
(A)Tryptophan (B) Arginine (C)Proline(D)stop
5.Which of the following genetic code shows ambiguity [ ]
(A)CGU (B)AUG(C)GAC (D)UGA
6.What is the the dinucleotide sequence of micro satelites? [ ]
(A)CA (B)AT(C)CC (D)GC
7.'DNA' molecules has [ ]
(A)Negative charge (B)Positive charge (C)Neutral (D)none of the above
8.'Purine' and 'pyrimidine' are the [ ]
(A)Nitrogenous bases (B)Nitrogen (C)Nucleotides (D)Nucleoside
9.A sequence of the three 'nucleotides' is called [ ]
(A)Message (B)Code(C)Codon (D)Amino acid
10.DNA stands for [ ]
(A)Ribonuclic Acid(B)Deoxyribonucleic acid (C)Nucleic acid (D)Protein
11.'AUG' is [ ]
A)Stop codon (B) start codon (C) intermediate (D)valine
12.Considering Deoxyribonucleic acid structure, backbone outside double helix is made up of [ ]
(A)Sugar and nitrogen (B)nitrogen and carbon (C)phosphate and sugar (D)phosphate and nitrogen
13.Sequence of amino acids of DNA is controlled by sequence of [ ]
(A)Dominant proteins (B)Nucleosomes (C)Nucleotides (D) chromatin
14.What should be the complementary stand of 3'... ATGGCTTGA..5'? [ ]
(A) 3'...TACCGAACT...5' (B) 5' ... TACCGAACT..3' (C) 3'…TAGGCAAGT..5' (D) 5'....TAGGCAAG...3'
15.Which of the following involves remarkable capacity of short segment of DNA of move from one place to another? [ ]
(A)DNA transposition (B) DNA replication (C) translation (D)transcription
16.Which of the following is called are solvase? [ ]
(A) RUV-C (B) RUV-A (C) RUV-B (D) RCV-A
17. The sequence of the recombination sites recognised by site- specific recombinases are
(A)Partially asymmetric (B) Partially symmetric (C)Symmetric (D)Palindromic [ ]
18.'B' pleated sheets are the examples of protein is [ ]
(A)Primary structure (B) secondary structure (C)Tertiary structure (D)Quaternary structure
19.Which of the following is not a G_ protein coupled receptor? [ ]
(A)Glycine receptor (B)Adrenergic receptor (C) Glutamate receptor (D)Muscarinic receptor
20. A hormone or ligand can be considered as [ ]
(A)first messenger (B)second messenger(C)Third messenger (D) fourth messenger

21.Which of the following serves as a neurotransmitter in adrenergic neurones? [ ]
(A) Epinephrine (B)Serotonin(C) Dopamine (D) Histamine
22. Process of folding depends upon the [ ]
(A)Solvent (B)the concentration of salts (C)PH (D)all of the above
23.In agarose gel electrophoresis, DNA is moved towards the [ ]
(A)cathode (B)Anode (C) DNA doesn't move (D) moves slowly
24.The first x-ray diffraction patterns of DNA were taken in 1938 by [ ]
(A) William Asbury (B) Rosalind Franklin (C)Franeis H. Crick (D)Linus pauling
25.In a DNA double helix the bases are held together by hydrogen bonds. These hydrogen bonds are____ [ ]
(A)Covalent bonds (B) Non-covalent bonds (C)Ionic bonds (D) Vander waals forces
26.How many kinds of mutation are found in DNA. which includes mutation of only base?
(A) 1 (B) 2 (C) 3 (D) 4 [ ]
27.By which process mis- incorporated base can change into a permanent mutation? [ ]
(A)Replication(B) Transcription (C) Translation (D) Transposition
28. A condon contains how many nucleotides [ ]
(A) 1 (B) 2 (C) 3 (D) 4
29.The initiation condon is [ ]
(A) AUG (B) UAA (C) UAG (D) UGA
30.How many t_RNAs are required to translated all 61 condons? [ ]
(A) 31 (B) 32 (C) 30 (D) 29
31.Wobble hypothesis was first proposed by [ ]
(A)Nitren berg (B) Watson and Crick (C) Watson (D)Crick
32.The building blocks of proteins are _____naturally occurring amino acids, small molecules that contain a free amino group and Afri carboxyl group [ ]
(A) Ten (B) Twenty (C) Nine (D) ninteen
33._____the smallest amino acid, has a hydrogen atom as 'R' group. [ ]
(A) valine(B) Proline (C) Glycine (D) Thercohine
34.Firoin is rich in [ ]
(A) Alanine and glycime(B) Alanine (C)Glycine (D)Pro.
35.Which of the following does not possess a quaternary structure? [ ]
(A) myo globin (B) Lactate Dehydrogenase (C)Immunoglobulin M (D) Creative phospho kinase
36.Which of the following is aboundadry found in collagen? [ ]
(A) Glycine (B) Serine (C) Alanine (D) Tryptophan
37. Which of the following enzyme is Secreated by the pancreas? [ ]
(A)Ribonuclease (B) lysozyme(C) Cytochrome (D) Myoglobin
38. The repeating units of proteins are [ ]
(A) Glucose units (B)Amino acids (C) fatty acids (D)peptides
39.The primary structure of protein represents [ ]
(A)linear sequence of amino acids joined by peptide Bond
(B)3- dimensional structure of protein
(C)Lulical structure of protein (D)subunit structure of protein
40. Haemoglobin has [ ]
(A)primary structure (B) secondary structure (C)tertiary structure (D)quaternary structure

UNIT-V

1.The total energy of a body is sum of [ ]
(A) kinetic energy (B) potential energy sources (C) forces (D)both a and b
2."Energy can neither be created nor be destroyed but it can be changed from one form to another" this law is known as [ ]
(A) kinetic energy (B) potential energy (C) conservation of energy
(D) conservation principle
3. The study of energy relationships and conversions in biological system is called as [ ]
(A)biophysics(B)biotechnology (C)bioeuergetics(D) microbiology
4.A chemical reaction that releases energy? [ ]
(A)endergonic reactions (B)metabolic pathway (C) photosynthesis
(D) exergonic reaction
5. cellular respiration is an [ ]
(A) endergonic reaction (B)exergonic reaction (C) Metabolic pathway
(D) photosynthesis
6.Reactions which cannot occur spontaneously are: [ ]
(A) exothermic(B) endothermic (C)Isothermic (D) thermodynamics
7.Exothermic reactions have high [ ]
(A) entropy (B) enthalpy (C)pH (D) Deactivation energy
8.Melting ice cube is an example of [ ]
(A) endothermic reaction(B) exothermic reaction (C)chemical change
(D) physical change
9.Biologist who discovered ATP is [ ]
(A) Daniel Olive (B)Daniel koshland(C)Karl lOhmann (D)Emil Augus
10.Major source of energy to perform cellular functions such as exocytosis, endocytosis, movement and transmission of nerve impulses is [ ]
(A) ATP (B) BTP (C) PTA (D) ADT
11.Energy from ATP is not necessary for [ ]
(A) osmosis(B) muscle Contractions (C) Protein synthesis(D) active transport
12.Which of the following enzues catalyzes the first step of glycolysis [ ]
(A) hexokinase(B) pyruvate kinase (C) glucokinase
(D) Phosphofructokinase-1
13.Cleavage of fructose-1 ,6-biophosphate yields [ ]
(A)Two aldoses (B) Two ketoses (C) An aldose and a ketoses
(D) onlyketose.
14.Dihydroxy Acetone phosphate is rapidly and reversibly converted to [ ]
(A)Glyceraldehyde 3-phosphate (B)1,3-bisphosphoglycerate
(C) Phosphoenolpyruvate (D) 1,3-bisphosphoglycerate
15.The substrate used in the last step of glycolysis is [ ]
(A) Glyceraldehyde 3-phosphate (B) pyruvate (C) Phosphoenolpyruvate (D)1,3-Bisphosphoglycerate
16.High concentration of glucose 6- phosphate is inhibitory to [ ]
(A) hexokinase(B) pyruvate kinase (C) glucokinase

(D) phosphofructokinase-1
17.Glycolysis converts [ ]
(A)glucose into pyruvate (B) glucose into phosphenol pyruvate
(C)Fructose into pyruvate (D)Fructose into Phosphoenolpyruvate
18.In what form does the product of glycolysis Enter the TCA cycle [ ]
(A)acitylcoA(B) pyruvate (C)NADH (D) glucose
19.Malate -asparatate shuttle operates in [ ]
(A)lungs and liver (B) heart and liver (C) pancreas an liver (D)none of these
20.Which of the following intermediates of TCA cycle cannot be utilized for gluconeogenesis?
(A)Succinate (B)Malate(C)alpha-ketoglutarate (D) Acetylene [ ]
21.In a Eukaryotic cell, most of the enzymes of the citric acid cycle are located in the
(A) mitochondrial matrix (B)inner mitochondrial memberane [ ]
(C)cytosol (D)inter membrane space
22.Most of the ATP made during cellular respiration is generated by [ ]
(A) Glycolysis(B) oxidative phosphorylation (C) photo phosphorylation
(D) substrate -level phosphorylation
23.The TCA cycle is involved in [ ]
(A) generation of energy from pyruvate (B) synthesis of amino acids
(C)synthesis of fatty acids (D) All of the above
24.Which of the following is an anoxygenic photosynthesis organism [ ]
(A) plants(B) photosynthetic protists(C) cyanobacteria (D) Green and Purple synthetic organism
25.Which of the following is not a liquid- soluble synthetic pigment? [ ]
(A) phycobilins(B) carbonates (C) chlorophyll (D) Xantgophylls
26. Name the photosynthetic pigment which is structurally similar to the bile pigment bilirubin?
(A) chlorophyll(B) carotene (C) Xantgophyll(D) phycobilins [ ]
27. The xanthophyte walls are typically of___ [ ]
(A) Chitin (B) Cellulose (C) Cellulose and pectin (D) Starch
28. Which of the following are formed in [ ]
(A)oil(B)glucose (C) starch (D)silica
29.Type strain is used for referring to? [ ]
(A)Species (B)geners (C)family (D) Division
30.what are the ribosomes composed of? [ ]
(A) proteins (B)DNA (C) RNA (D) proteins and RNA
31.What do you mean by sterilization? [ ]
(A) purification of products (B)recovery of products
(C) elimination of contamination (D) formulation of media
32.The highest feasible temperature for batch sterilization is [ ]
(A)124℃(B) 121℃ (C)122 ℃(D)121℃
33.The Gram- Negative organisms is [ ]
(A) actinomyces (B) bacillus (C)clostridium (D) none of these
34. Catalase production is negative in which of the following? [ ]
(A) Streptococcus (B) Salmonella (C) Proteus (D) Staphylococus
35.The organisms that can be acid of stained is [ ]
(A)Nocardia (B) Tubercle bacille (C)Lepra bacilli(D) all of these

36.Type strain is used for referring to? [ ]
(A) species (B) genus (C)family (D) division
37.What are the ribosomes composed of? [ ]
(A) proteins(B) DNA (C)RNA (D) proteins and RNA
38.Which condition is correct according to the growth of cells in beginning? [ ]
(A) cells are in small amount (B) cells are in medium amount
(C)cells are in large amount (D) cells are in negligible amount
39.The symbol of Helmholtz tree energy is _____ [ ]
(A)A. (B) H (C) B (D) E
40. what is the symbol for Gibbs free energy? [ ]
(A) A(B) H (C) G (D) E