TOPPERSDESTINY

IIT & NEET ACADEMY

NEET WEEKEND - 11

DATE: .....

BOTANY

1) Introduction of foreign genes for improving genotype is called.
   1) Biotechnology
   2) Tissue culture
   3) Genetic engineering
   4) Both 1 and 3

2) Chemical knives of molecular biology are.
   1) Restriction endonucleases
   2) Transciptase
   3) Reverse transcriptase
   4) Ligase

3) Who is given the credit for constructing first artificial recombinant DNA?
   1) Hargobind Khorana
   2) Stanley Cohen and Herbert Boyer
   3) Linus Pauling
   4) Arber and Nathans

4) Which of the following is not related to biotechnology?
   1) Integration of natural science & organisms (Microbes to plant & animals)
   2) Techniques to change the chemistry of DNA
   3) Maintenance of sterile ambience to maximum growth of the desired DNA
   4) Introducing undesirable genes into the target organism for multiplication

5) All the following statements about Stanley Cohen and Herbert Boyer are correct but one is wrong. Which one is wrong?
   1) They discovered recombinant DNA (r-DNA) technology which marked the birth of modern biotechnology.
   2) They first produced, healthy sheep clone, a Finn Dorset lamb, Dolly, from the differentiated adult mammary cells.
   3) They invented genetic engineering by combining a piece of foreign DNA containing a gene from a bacterium with a bacterial (E.coil) plasmid using the enzyme restriction endonuclease.
   4) They isolated the antibiotic resistance gene by cutting out a piece of DNA from a plasmid which was responsible for conferring antibiotic resistance

6) Which of the following tools are essential for recombinant DNA technology?
   A. Vectors
   B. Polymerase enzyme
   C. Restriction enzyme
   D. Ligase enzyme
   1) A, B
   2) B, C
   3) C, D
   4) A, B, C and D

7) Genetic engineering is possible because.
   1) DNA can be cut at specific sites by endonucleases like DNase
   2) Restriction endonucleases purified from bacteria can be used in vitro

3) The phenomenon of transduction in bacteria is well understood
4) DNA can be seen by electron microscope

8) First created rDNA in vitro consist of.
1) Plasmid DNA of Salmonella & Genophore of E.coli
2) Plasmid of Salmonella & Antibiotic resistance gene of Salmonella
3) Plasmid of Salmonella & Antibiotic resistance gene of E.coli
4) Genophore of Salmonella & Plasmid of E.coil

9) The role of DNA ligase in the construction of a recombinant DNA molecule is.
1) Formation of phosphodiester bond between two DNA fragments
2) Formation of hydrogen bonds between sticky ends of DNA fragments
3) Ligation of all purine and pyrimidine bases
4) None of the above

10) Which of the following correctly represents the recognition site of the restriction endoenuclease enzyme EcoRI.
1) $5'\overleftarrow{\text{GGCC}}3'$ 2) $3' \xrightarrow[TGCA]{CTTAAG} 5'$
3) $5'\overleftarrow{\text{AGCT}}3'$ 4) $3' \xrightarrow{TGCA} 5'$

11) . How many restriction endonuclease enzymes have been isolated till date from various bacteria?
1) 200 2) 900 3) 1500 4) 2000

12) Which antibiotic resistance genes will you find in the pBR322?
1) Ampicillin 2) Erthromycin 3) Tetracycline 4) Both 1 and 3

13) Which of the following bonds are formed by action of DNA ligase?
1) Sugar-phosphate bond 2) Phosphodiester bond
3) Phosphate-phospahate bond 4) Both 1 and 2

14) Identify the plasmid among following.
1) Hind III 2) pBR-323 3) $\lambda - phage$ 4) Both 2 and 3

15) Plasmid are important in biotechnology because they.
1) Have recognition sites on recombinant DNA strands
2) Have antibiotic geens
3) Act as vehicle for insertion of foreign gene into bacteria
4) Surface for respiratory process in bacteria

16) Agrobacterium tumefaciens is a pathogen of.
1) Nematodes 2) Bacteria 3) Fungi 4) Several dicot plants

17) Characteristics of vector include all, expect.
1) Presence of 'ori'
2) Presence of antibiotic resistance gene as selection marker
3) Large size
4) Multiple cloning sites (MCS)

18) Boliver and Rodriguez developed.
1) Shuttle vector 2) pBR322 3) pUC19 4) Both 1 and 2

19) Which of the following is essential for initiating replication of DNA?

1) Marker site 2) 'Ori' (origin of replication)
3) Palindromic site 4) Restriction enzymes action site

20) Restriction enzymes.
1) Are endonucleases which cleave DNA at specific sites
2) Make DNA complementary to an exiting DNA or RNA
3) Cut or join DNA fragments
4) Are required in vectroless direct gene transfer

21) Restriction enzyme EcoRI cuts the DNA between bases G and A only when the sequence in DNA is.
1) 5 GATATC 3 2) 5 GAATTC 3 3) 5 GATTCC 3 4) 3 GAATTC 5

22) There is a restriction endonuclease called Eco RI what does "co" part in it stand for?
1) Coli 2) Colon 3) Coelom 4) Coenzyme

23) Which of the following is not a restriction endonuclease.
1) EcoRI 2) Hind III 3) Pst I 4) DNase

24) Which one the following statements does not hold true for restriction enzyme?
1) It recognises a palindromic nucleotide sequence
2) It is an endonuclease
3) It is isolated from bacteriophages
4) It produces the same kind of sticky ends in different DNA moleules

25) Which of the following causes cell proliferations?
1) Tiplasmid 2) Retrovirus 3) All plasmids 4) Both 1 and 2

26) Selectable markers in PBR322.
1) amp^R & tet^R 2) ori & rop 3) BamHI & ClaI 4) PsI & PvuI

27) Large scale reproduction of gene products involve the use of.
1) Steam sterilizer 2) Culturing flasks 3) Bacteria 4) Bioreactor

28) The first restriction enzyme isolated from.
1) Escherichia 2) Bacillus 3 Proteus 4) Haemophilus

29) In case of BamHI, H represents.
1) Genus 2) Species 3) Name of scientist 4) Strain

30) A plsmid
1) Act as main genetic material
2) Has ability to replicate within bacterial cells independent of the control of chromosomal DNA
3) Cannot replicate 4) Contains genes for vital activities

31) As per probability, the frequency of occurrence the palindromic sequence recognized byEcoR1 is (Assuming that the occurrence of bases in adjacent positions is random on DNA)
1) Once in 9046 nucleotides 2) Once in 4069 nucleotides
3) Once in 4096 nucleotides 4) Once in 6096 nucleotides

32) Pick out the true expression regarding pBR322 and Eco RI.

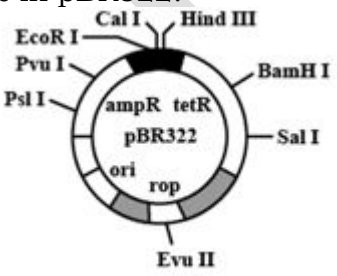
1) Former is a polymer of animo acids, where as the latter is a polypeptide with catalytic activity.
2) Both are redesigned plasmids
3) Former is a linear DNA where as latter is synthesized on 70s ribosomes
4) Former is a polymer of amino acids, where as the latter is a polymer of nucleotides

33) An enzyme catalysing the removal of nucleotides from the ends of DNA is.
1) DNA polymerase 2) Exonuclease 3) DNA ligase 4) Hind – II

34) The most important feature in a plasmid to be used as a vector is.
1) Origin of replication (ori)
2) Presence of a selectable marker
3) Presence of sites for restriction endonuclease
4) Its size

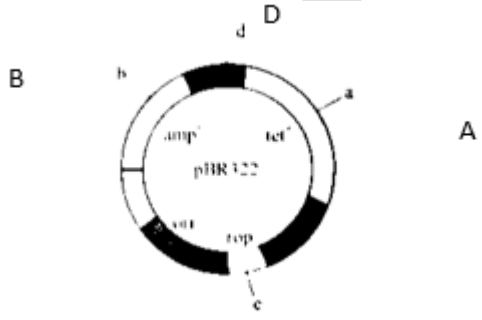
35) Which of the following statements does not hold true for restriction enzyme?
1) It recognises a palindromic nucleotide sequence
2) It is endonuclease
3) It is isolated from viruses
4) It produces the same kind sticky ends in different DNA molecules

36) Identify the restriction site present in a structural gene other than antibiotic resistant genes in pBR322.



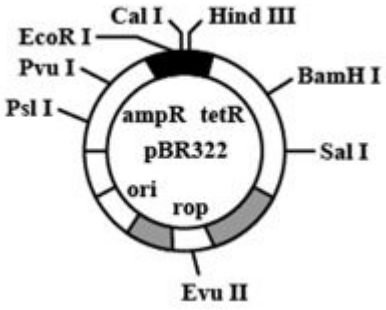
1) BamHI 2) Pst I 3) Sal I 4) Pvu II

37) Examine the figure given below and select right option giving all the four restriction endonucleases a,b,c,d that cuts the plasmid at specific cleavage sites.



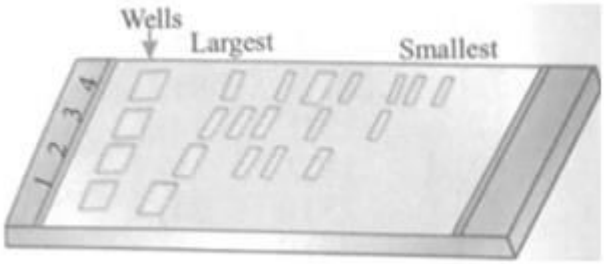
Find out the a,b,c,d restriction endonucleases respectively.
1) Bam HI, PvuII, PvuI, EcoRI 2) SalI, PvuI, PvuII, PstI
3) Bam HI, PvuI, PvuII, HindIII 4) EcoRI, PvuII, PvuII, ClaI

38) The figure below is the diagrammatic representation of the E.Coli vector pBR322. Which one of the given options correctly identifies its certain component (s)?



1) Hind III, EcoRI-selectable markers
2) ampR, tetR-antibiotic resistance genes
3) ori-original restriction enzyme 4) rop-reduced osmotic pressure

39) Identify the correct match for the given figure.



1) Electrophoresis – differential migration of DNA fragments
2) Column Chromatograph – separation of chlorophyll pigments
3) Gene cloning – technique of obtaining copies of a particular DNA segments or a gene
4) Microinjection – Technique of introducing foreign genes into a host cell

40) A: DNA ligase plays an important role in recombinant DNA techonology
R: The linking of antibiotic resistant gene with plasmid vector became possible by enzyme DNA ligase.
1) If both Assertion & Reason are T but the reason is the correct explanation of the assertion, then mark (1)
2) If both Assertion & Reason are T but the reason is not the correct explanation of the assertion, then mark (2)
3) If Assertion is T statement but reason is F, then mark (3)
4) If Assertion is F statement but reason is F, then mark (4)

41) A: Restriction enzymes belong to a larger class of enzymes called nucleases
R: Each restriction enzyme recognises a specific palindromic nucleotide sequence in the DNA
1) If both Assertion & Reason are T but the reason is the correct explanation of the assertion, then mark (1)
2) If both Assertion & Reason are T but the reason is not the correct explanation of the assertion, then mark (2)
3) If Assertion is T statement but reason is F, then mark (3)
4) If Assertion is F statement but reason is F, then mark (4)

42) A: During gel electrophoresis, the DNA fragments move towards the anode
R: DNA fragments are negatively charged molecules
1) If both Assertion & Reason are T but the reason is the correct explanation of the assertion, then mark (1)

2) If both Assertion & Reason are T but the reason is not the correct explanation of the assertion, then mark (2)
3) If Assertion is T statement but reason is F, then mark (3)
4) If Assertion is F statement but reason is F, then mark (4)

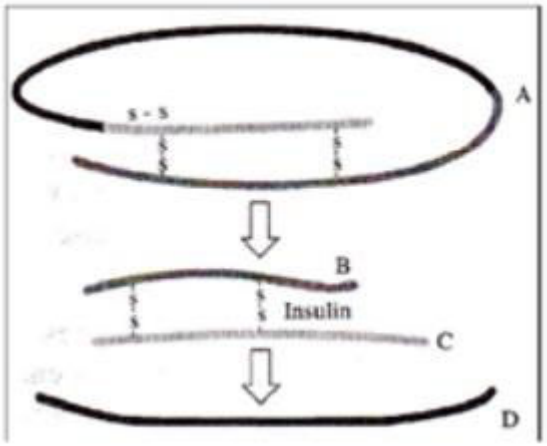
43) Plasmid are suitable vectors for gene cloning because.
1) These are small circular DNA molecules, which can integrate with host chromosomal DNA.
2) These are small circular DNA molecular with their own replication origin site
3) These can shuttle between prokaryotic and eukaryotic cells
4) These often carry antibiotic resistance genes

44) Which of the following is used as a best genetic vector in plants?
1) Bacillus thuriengenesis 2) Agrobacterium thumifaciens
3) Pseudomonas putida 4) All of these

45) Gel electrophoresis is used for.
1) Construction of recombinant DNA by joining with cloning vectors
2) Isolation of DNA molecules
3) Cutting of DNA into fragments
4) Separation of DNA fragments according to their size

ZOOLOGY

46) The below diagram show a diagrammatic sketch of maturation of insulin. Select the correct set of the names labeled A,B,C and D



47) Number of therapeutics have been approved for human use the world over is
1) 10 2) 12 3) 30 4) 32

48) Permanent cure for ADA deficiency is
1) Genetically engineered lymphocyte 2) Bone marrow transplantation
3) Enzyme replacement therapy 4) ADA gene introduced into cells early at embryonic stages

49) Which of the following is based on antigenantibody reaction?
1) PCR 2) ELISA 3) Serum analysis 4) Southern blotting

50) Match the columns

Column-I	Column-II
A. Emphysema	1.Test to detect antigen or antibody
B. Rosie	2. a -1 antitrypsin
C. ELISA	3. Protein enriched milk
D. PCR	4. To detect HIV

1) A-2, B-3, C-1, D-4 2) A-1, B-3, C-4, D-2
3) A-1, B-2, C-3, D-4 4) A-4, B-3, C-2, D-1

51) 'Rosie' a transgenic cow known to produce a type of milk which has all the following characteristics except
1) Protein content of 2.4 gm/litre 2) Has human alpha-lactalbumin
3) More balanced diet than normal milk for babies
4) Rich in cholesterol

52) In which of the following methods, a probe is allowed to hybridise to its complementary DNA in the clone of cells?
1) Gene therapy 2) Autoradiography 3) Polymerase chain reaction
4) Enzyme-Linked Immuno Sorbent Assay (ELISA)

53) For the first time, genetherapy was tried on a 4 year old girl in 1990 to treat which of the following enzyme deficiency
1) Cytosine deaminase 2) Tyrosine oxidase
3) Adenosine deaminase 4) All of the above

54) Arrange the steps of ADA-deficiency treatment in sequence
I) The lymphocytes with ADA cDNA is returned to the patient
II) The lymphocytes from the blood of the patient are given in culture outide the body
III) A functional ADA cDNA (using retroviral vector) is introduced into the lymphocytes
1) I-III-II 2) I-II-III 3) II-I-III 4) II-III-I

55) Over 95 percent of all existing transgenic animals are
1) Pigs 2) Cows 3) Fish 4) Mice

56) Which one of the following molecular diagnostic techniques is used to detect the presence of a pathogen in its early stage of infection?
1) Angiography 2) Radiography
3) Enzyme replacement technique 4) Polymerase Chain Reaction (PCR)

57) Assertion: Alpha - 1 – antitrypsin is used to treat emphysema. Reason: Transgenic mice are being used to test the safety of the polio vaccine.
1) If both the assertion and the reason are true and the reason is a correct explanation of the assertion
2) If both the assertion and the reason are true but the reason is not a correct explanation of the assertion
3) if the assertion is true but reason is false
4) If both assertion and reason are false

58) Between which among the following, the relationship is not an example of commensalism?
1) Orchid and the tree on which it grows 2) Cattle egret and grazing cattle

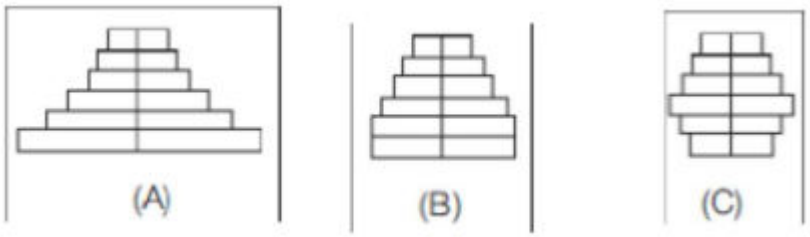
3) Sea anemone and clown fish 4) Female wasp and fig species

59) Which of the following is not an example of preypredator relationship?
1) Tiger eating deer 2) Plant Nepenthes trapping an insect
3) Bacteria decomposing organic matter
4) Crocodile killing a man

60) Which of the following would necessarily decrease the density of a population in a given habitat?
1) Natality > mortality 2) Immigration > emigration
3) Mortality and emigration 4) Natality and immigration

61) Interspecific interactions arise from the interaction of
1) population of two different species 2) population of same species
3) two individuals of same species 4) two individuals of different area

62) Post-reproductive Reproductive Pre-productive



Select the correct option with respect to age pyramids.
1) A–Expanding, B–Stable, C–Declining
2) A–Stable, B–Expanding, C–Declining
3) A–Stable, B–Declining, C–Expanding
4) A–Declining, B–Stable, C–Expanding

63) Match the following columns

Column I (Population interaction)	Column II (Examples)
A. Mutualism	1. Ticks on dogs
B. Commensalism	2.Balanus and Chthamalus
C. Parasitism	3.Sparrow and any seed
D. Competition	4. Epiphyte on a mango branch
E. Predation	5. Orchid, Ophrys and bee

	A	B	C	D	E		A	B	C	D	E
1)	1	5	4	3	2	2)	2	1	5	4	3
3)	3	2	1	5	4	4)	5	4	1	2	3

64) Choose the incorrect match for life history variations in various organisms.
1) Breeds only once in their life – Pacific salmon fish, bamboo
2) Breeds many times during lifetime – Most birds, mammals

3) Produces large number of small-sized offspring – Birds
4) Produces large number of large-sized offspring –Mammals

65) Species facing competition might evolve mechanism that promotes coexistence rather than exclusion. One such mechanism is
1) competitive release 2) resource partitioning 3) coevolution 4) None of the above

66) Carrying capacity is the capacity of
1) habitat that has resources to sustain certain number of individuals
2) population to reproduce and competitiveness
3) population to reproduce
4) individuals to fit among the natural environment

67) When Darwin spoke of the struggle for the existence and survival of the fittest in the nature, he was convinced that
1) intraspecific competition is a potent force in organic evolution
2) interspecific competition is a potent force in organic evolution
3) intensive reproduction is the potent force in organic evolution
4) intensive predation is the potent force in organic evolution

68) Pseudocopulation occurs in
1) maize 2) Ophrys 3) mango 4) papaya

69) Select the statement which explains best parasitism.
1) One organism is benefitted 2) Both the organisms are benefitted
3) One organism is benefitted, other is not affected
4) One organism is benefitted, other is harmed

70) Read the following reasons for the adaptation in parasites.
I. loss of unnecessary organs.
II. presence of adhesive organs.
III. origin of suckers to cling to host.
IV. loss of digestive system
V. high reproductive capacity. Choose the correct option.
1) I, III and IV 2) II, IV and V 3) I, IV and V 4) I, II, III, IV and V

71) Monarch butterflies are highly distasteful to predator due to
1) its ugly look 2) a special chemical present in his body
3) Both (1) and (2) 4) a poison secreted by their special glands

72) Starfish pisaster is the important predator in intertidal communities of
1) American pacific coast 2) Indian pacific coast
3) Middle pacific coast 4) East Indian lakes

73) Logistic growth is represented by which equation?

1) $\frac{dN}{dt} = rN\left(\frac{K-N}{K}\right)$ 2) $\frac{dN}{dt} = rN\left(\frac{K-N}{N}\right)$

3) $\frac{dN}{dt} = rN\left(\frac{K+N}{K}\right)$ 4) $\frac{dN}{dt} = rN\left(\frac{K}{K+N}\right)$

74) On the rocky sea coasts of Scotland, the larger and competitively superior barnacle Balanus dominates the intertidal areas and excludes the smaller barnacle

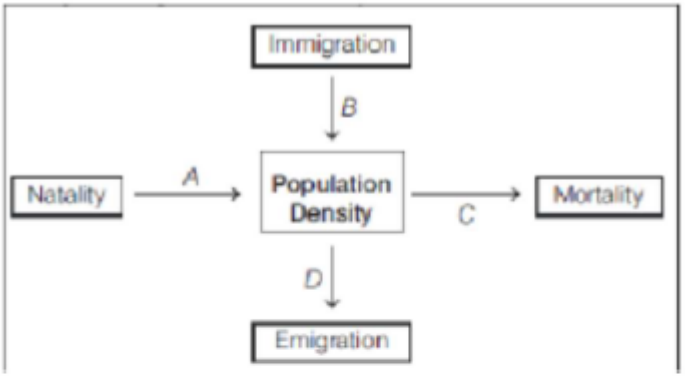
Chathamalus from that zone. Which kind of interaction is being depicted by this example?

1) Predator 2) Parasitism 3) Commensalism 4) Competition

75) If '+' sign is assigned to beneficial interaction, '-' sign to detrimental and '0' sign to neutral interaction, then the population interaction represented by '+' '–' refers to

1) mutualism 2) amensalism 3) commensalism 4) parasitism

76) Study the figure and identify A to D.



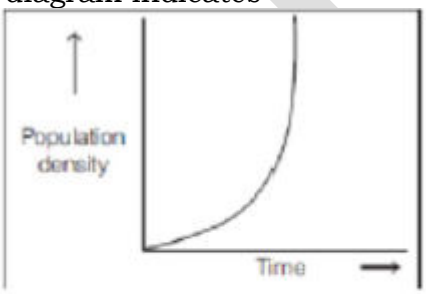
1) A–Increase, B–Decrease, C–Increase, D–Decrease

2) A–Decrease, B–Increase, C–Decrease, D–Increase

3) A–Increase, B–Increase, C–Decrease, D–Decrease

4) A–Decrease, B–Decrease, C–Increase, D–Increase

77) Below diagram indicates



1) exponential growth curve

2) logistic growth pattern

3) J-shaped curve

4) Both 1) and 3)

78) Competition is best defined as a process in which the fitness of one species (measured in terms of its 'r' the intrinsic rate of increase) is significantly

1) lower in the presence of another superior species
2) higher in the presence of another superiorspecies
3) equal in the presence of another superior species

4) equal in the presence of their own species

79) Match the following columns.

Column I (Attributes of population growth)	Column II (Features)
A. Mortality	1. Individuals of same species going out from population.
B. Immigration	2. Individuals of same species coming in population
C. Emigration	3. Numbers of deaths in population during given period.

1) A-1, B-3, C-2 2) A-2, B-3, C-1
3) A-3, B-2, C-1 4) A-2, B-1, C-3

80) Abingdon tortoise in galapagos islands became extinct within a decade after introducing the
1) Cows 2) Buffaloes 3) Goats 4) Camels

81) Parasite that feed on the external surface of the host organism is called
1) endoparasite 2) ectoparasite 3) brood parasite 4) None of these

82) Logistic growth occurs when there is
1) no resistance from increasing population 2) unlimited food
3) fixed carrying capacity 4) All of the above

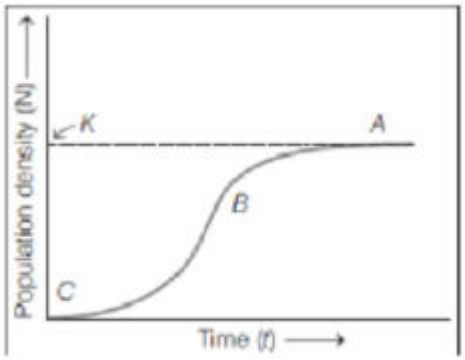
83) Amensalism is an association between two species where
1) one species is harmed and other is benefitted
2) one species is harmed and other is unaffected
3) one species is benefitted and other is unaffected
4) Both the species are harmed

84) What parameters are used for tiger census in our country's national parks and sanctuaries?
1) Pug marks only 2) Pug marks and faecal pellets
3) Faecal pellets only 4) Actual head counts

85) Consider the following statements.
I. Brood parasitism in birds is an example of parasitism in which the parasitic bird lays its eggs in the nest of its host and host incubates them.
II. During the course of evolution, the eggs of the parasite bird have evolved to resemble the host's eggs in size and colour to reduce the chances of the host bird detecting the foreign eggs and removing them from the nest.
1) Statement I is true, but II is false
2) Statement I is false, but II is true
3) Both statements are true

4) Both statements are false

86) Given population growth curverepresents the logistic growth curve. In this curve, find out whatdo A, B and C indicate.



1) A–Lag phase, B–acceleration / deceleration, C–asymptote
2) A–asymptote, B–acceleration / deceleration, C–Lag phase
3) A–asymptote, B–Lag phase, C–acceleration /deceleration
4) A–acceleration / deceleration, B–Lag phase, C–asymptote

87) A species whose distribution is restricted to asmall geographical area because of the presence ofa competitively superior species is found toexpand its distributional range dramatically when the competing species is experimentally removed. This is called as

1) competitive exclusion 2) competitive release
3) predation 4) mutualism

88) Match the following columns.

Column I	Column II
A. Epiphytes	1. Cattle egret
B. Grazing cattle	2. Orchid on mango tree
C. Sea anemone	3. Clown fish

1) A-1, B-2, C-3 2) A-1, B-3, C-2
3) A-2, B-1, C-3 4) A-2, B-3, C-1

89) A biologist studied the population of rats in a barn. He found that the average natality was 250, average mortality 240, immigration 20 and emigration 30. The net increase in population is

1) 10 2) 15 3) 05 4) zero

90) Mycorrhiza represents an intimate mutualistic relationship between

1) fungi and stem of higher plants 2) fungi and roots of higher plant
3) fungi and leaves of higher plants 4) fungi and leaflets of higher plants

CHEMISTRY

91) The number of stereoisomers possible for a compound of the molecular formula CH_3 − CH = CH − CH(OH) − Me is

1) 3 2)2 3) 4 4)6

92) Which of the following compounds is not chiral?

1) 1-chloro-2-methyl pentane 2)2-chloropentane
3) 1-chloropentane 4)3-chloro-2-methyl pentane

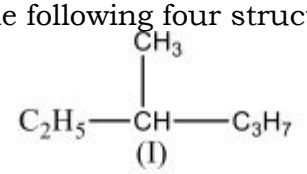
93) The number of isomers in C4H10O are
1) 7 2)8 3) 6 4)5

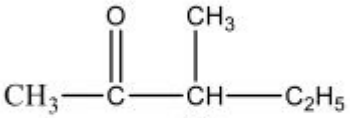
94) Least stable conformer of cyclohexane is
1) Chair 2)Boat 3) Twist boat 4)Planar hexagon

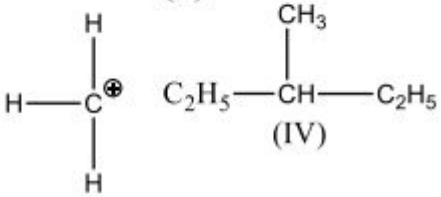
95) Which of the following compounds exhibit stereoisomerism?
1) 3-methyl butyne –1 2)2-methyl butene –1
3) 2-methyl butanoic acid 4)3-methyl butanoic acid

96) Which of the following compounds is optically active?
a) $(CH_3)_2CHCH_2OH$ b) CH_3CH_2OH
c) CCl_2F_2 d) $CH_3CHOHC_2H_5$

97) Among the following four structures I to IV


(I)


(II)


(III) (IV)

it is true that
1) All four are chiral compounds
2)Only I and II are chiral compounds 3) Only III is a chiral compound
4)Only II and IV are chiral compounds

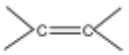
98) Geometrical isomerism is possible in
1) Acetone-oxime 2)Isobutene 3) Acetophenone-oxime
4) Benzophenone-oxime

99) The total number of acylic iosmers including the stereoisomers (geometrical and optical), with the molecular formula C_4H_7Cl is
1) 12 2)11 3) 10 d)9

100) The maximum number of possible optical isomers in 1-bromo-2-methyl cyclobutane is
1) 4 2)2 3) 8 4)16

101) The number of isomers of the compound with molecular formula $C_2H_2Br_2$ is
1) 4 2)3 3) 5 4)2

102) Geometrical isomerism is shown by

a) $-C\ -C-$ b) 

c) $-C \equiv C-$ d) None of these

103) Out of the following, the alkene that exhibits optical isomerism is
1) 3-methyl-2-pentene 2) 4-methyl-1-pentene
3) 3-methyl-1-pentene 4) 2-methyl-2-pentene

104) According to Gahn-Ingold-Prelog sequence rules, the correct order of priority for the given group is
a) $-COOH > -CH_2OH > -OH > -CHO$
b) $-COOH > -CHO > -CH_2OH > -OH$
c) $-OH > -CH_2OH > -CHO > -COOH$
d) $-OH > -COOH > -CHO > -CH_2OH$

104) Which types of isomerism is shown by 2, 3- dichlorobutane?
1) Structural 2) Geometric 3) Optical 4) Diastereo

105) The structures $(CH_3)_3CBr$ and $CH_3[CH_2]_3Br$ represent
1) Chain isomerism 2) Position isomerism
3) Chain as well as position isomerism 4) Functional isomerism

106) Ethyl acetoacetate shows, which type of isomerism?
1) Chain 2) Optical c 3) Metamerism 4) Tautomerism

107) How many chiral carbon atoms are present in 2, 3, 4- trichloropentane?
1) 4 2)1 3) 2 4)3

108) One of the following compounds exhibit geometrical isomerism
a) $CH_3CH_2CH_2CH_3$
b) $CH_3 - HC(CH_3) - H(C)CH_3 - CH_3$
c) $CH_3 - HC(CH_3) - CH_3$
d) $CH_3CH = CH - CH_3$

109) The number of isomeric alkenes with molecular formula C_6H_{12} are
1) 8 2)10 3) 11 4)13

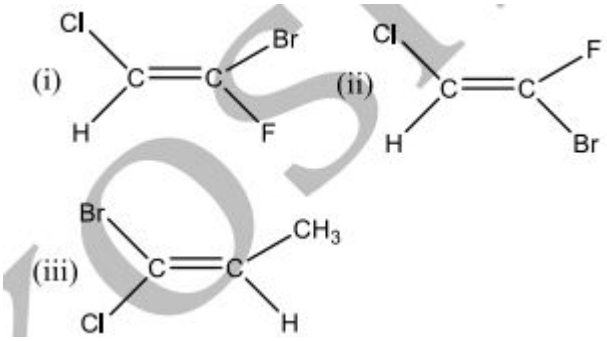
110) With a change in hybridisation of the carbon bearing the charge, the stability of a carbanion increase in the order
a) $sp < sp^2 < sp^3$ b) $sp < sp^3 < sp^2$
c) $sp^3 < sp^2 < sp$ d) $sp^2 < sp < sp^3$

111) An enantiomerically pure acid is treated with racemic mixture of an alcohol having one chiral carbon. The ester formed will be
1) Optically active mixture 2)Pure enantiomer
3) Meso compound 4)Racemic mixture

112) How many optically active stereoisomers are possible for butane-2, 3-diol?
1) 0 2)1 3) 2 4)3

113) $C_6H_5C \equiv N$ and $C_6H_5N \equiv C$ exhibit which type of isomerism?
1) Position 2) Functional 3) Metamerism 4) Dextroisomerism

114) Which of the following compounds (s) has 'Z' configuration?



1) (i) only 2) (ii) only 3) (iii) only 4) (i) and (iii)

115) Which of the following will have a *meso*-isomer also?
1) 2-chlorobutane 2)2, 3-dichlorobutane
3) 2, 3-dichloropentane 4)2-hydroxypropanoic acid

116) Identify the compound that exhibits tautomerism
1) 2-butene 2)Lactic acid 3) 2-pentanone 4)Phenol

117) Which one of the following compound will show optical iosmerism?
a) $(CH_3)_2 - CH - CH_2 - CH_3$
b) $CH_3 - CHOH - CH_3$
c) $CH_3 - CHCl - CH_2 - CH_3$
d) $CH_3 - CCl_2 - CH_2 - CH_3$

118) The alkene that exhibits geometrical isomeris is
1) Propene 2)2-methyl propene 3) 2-butene 4)2-methyl-2-butene

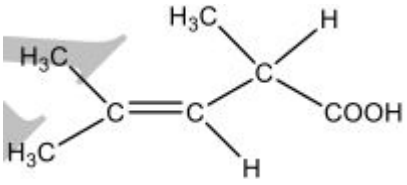
119) The total number of cyclic structural as well as stero isomers possible for a compound with the molecular formula C_5H_{10} is
1) 2 2)4 3) 6 4)7

120) Which among the following statements is correct with respect to the optical isomers?
1) Enantimoers are non-superimposable mirror images.
2)Diastereomers are superimposable mirror images.
3) Enantimoers are superimposable mirror image.
4)*Meso* forms have no plane of symmetry

121) Increasing order of stability among the three main conformations (i.e., *Eclipse*, *Anti*,*Gauche*) of 2-fluoroethanol is
1) *Eclipse*, *Gauche*,*Anti* 2) *Gauche*,*Eclipse*, *Anti*
3) *Eclipse*, *Anti*, *Gauche* 4) *Anti*, *Gauche*, *Eclipse*

122) The total number of cyclic isomers possible for a hydrocarbon with the molecular formula C_4H_6 is
1) 1 2) 3 3) 5 4)7

123) Which of the following is an optically active compound?
1) Lactic acid 2) Chloro acetic acid 3) *Meso*-tartaric acid 4) Acetic acid

124)  Compound can exhibit

1) Geometrical isomerism 2)Tautomerism
3) Optical isomerism 4)Geometrical and optical isomerism

125) Maleic acid and fumaric acid are

1) Position isomers 2)Geometric isomers 3) Enantimoers
4)Functional isomers

126) Racemic mixture is formed by mixing two

1) Isomeric compounds 2)Chiral compounds
3) *meso* compounds 4)Enantiomers with chiral carbon

127) What is the number of possible optical isomers in glucose?

1) 3 2)4 3) 12 4)16

128) The number of *meso* forms in the following compound is

HOOC. $CH(CH_3)$. CH(OH).
$CH(Cl)$. $CH(OH)CH(CH_3)$.
COOH

a) 3 b) 4 c) 8 d) 16

129) 2-pentanone and 3-methyl-2-butanone are a pair of ….. isomers.

1) Functional 2) Chain 3) Positional 4) Stereo

130) Metamers of ethyl propionate are

a) C_4H_9COOH and $HCOOC_4H_9$
b) C_4H_9COOH and $CH_3COOC_3H_7$
c) CH_3COOCH_3 and $CH_3COOC_3H_7$
d) $CH_3COOC_3H_7$ and $C_3H_7COOCH_3$

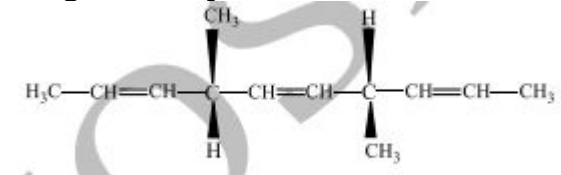
131) CH_3CH_2OH and CH_3OCH_3 are the example o

1) Chain isomerism 2) Functional isomerism
3) Position isomerism 4) Metamerism

132) *Cis − trans*, isomers generally

1) Contain an asymmetric carbon atom 2)Rotate the plane of polarized light
3) Are enantiomorphs 4)Contain a double bonded carbon atoms

133) The number of optically active products obtained from the complete ozonolysis of the given compound is :



a) 0 b) 1 c) 2 d) 4

134) Two crystalline forms of a substance, one being a mirror image of the other are called :

1) Pentane 2) Chain isomers 3) Stereoisomers 4) Functional isomers

135) Naphthalene molecule contains :

1) 10π-electrons 2) 8π-electrons 3) 12π-electrons 4) 14π-electrons