B-13

ENTRANCE EXAMINATION - 2013

M.Sc. Plant Biology and Biotechnology

Time: 2 hours **Maximum Marks: 100**

HALL TICKET NO.

INSTRUCTIONS

Please read carefully before answering the questions:

1. Enter your Hall Ticket number both on the top of this page and on the OMR answer sheet.
2. Answers are to be marked only on the **OMR answer sheet** following the instructions provided there upon.
3. Hand over the OMR answer sheet at the end of the examination to the Invigilator.
4. The question paper contains **100** questions (**Part-A:** Question Nos. **1-25** and **Part-B:** Question Nos. **26-100**) of multiple choice typed in **18** pages, including this page. One OMR answer sheet is provided separately. **Please check.**
5. The marks obtained in **Part-A** will be used for resolving the tie cases.
6. Each question carries one mark.
7. There is **negative marking** for wrong answers, in **PARTS-A and B.** For each wrong answer, 0.33 of a mark will be deducted.
8. Calculators and mobile phones **are not allowed.**

PART-A

1. Which of the following processes substitutes for sexual reproduction in flowering plants?

A. Parthenocarpy
B. Apomixis
C. Parthenogenesis
D. Semigamy

2. Match the common names of the plants listed in the left panel with their scientific names from the right panel and choose the correct answer

Common name	**Scientific name**
L. *Blackgram*	I. *Cajanus cajan* L.
M. *Greengram*	II. *Cicer arietinum* L.
N. *Chickpea*	III. *Vigna mungo* L.
O. *Pigeonpea*	IV. *Vigna radiata* L.
	V. *Vigna unguiculata* L.

A. L-IV; M-III; N-I; O-II
B. L-III; M-IV; N-I; O-II
C. L-III; M-IV; N-II; O-I
D. L-III; M-V; N-II; O-I

3. The genotype that is present most often among the progeny of a cross **AaBb** X **AaBb** is

A. AaBb
B. AAbb
C. AABB
D. AABb

4. Robert Lefkowtiz and Brian Kobilka received Nobel Prize in chemistry in 2012 for studies on

A. Quasicrystals
B. Structure and function of the ribosome
C. Molecular basis of eukaryotic transcription
D. G-protein-coupled receptors

5. A set of approximately 25 genes encodes a pathogenicity mechanism that enables Gram-negative bacteria to secrete and inject virulence proteins into the cytoplasm of eukaryotic host cell is termed as

A. ABC transporter system
B. Type two secretion system
C. Type three secretion system
D. Type four secretion system

6. Which among the following is **not correctly** matched?

A. Day neutral plants – Plants that start flowering without any light stimulus
B. Short day plants – Plants that flower only when exposed to short periods of lights
C. Long day plants – Plants that flower after exposure to long days
D. Intermediate day plants – Plants that flower in response to either long or short days

7. When enzyme binds to substrate, the activation energy level is

A. Lower
B. Higher
C. Not changed
D. Sub-optimal

8. All of the following statements regarding plant secondary metabolites are true **except**

A. They play a primary role in the normal growth and development of the organism
B. They can provide protection against predators and microbial pathogens
C. They can provide protection from radiation from the sun
D. They play a major role in the adaption of plants to the changing environment

9. Gregor Mendel had discovered the basic mechanism of inheritance. Which of the following is **not true** with regard to the experimental techniques used by Mendel?

A. The choice of peas which are easy to grow and have a short life cycle
B. He choose simple, easily identified characteristics which occurred in just two forms
C. He made crosses between heterozygous parent plants to get F_1
D. He analyzed his results mathematically

10. The antibiotic that is used in plant transformation experiments for inhibiting the growth of *Agrobacterium* is

A. Amphicillin
B. Carbenicillin
C. Kanamycin
D. Streptomycin

11. Fermentation: a word with many meanings for microbiologist and for a biochemist, it is

A. Growth dependent on substrate-level phosphorylation
B. Use of an organic substrate as the electron donor and acceptor
C. A biological process that occurs in the absence of oxygen
D. Any process involving mass culture of microorganisms under anaerobic conditions

12. Trisomic series have been obtained in *Datura stramonium* which has 2n = 24 chromosomes. How many chromosomes will be formed in a trisomic member of this species?

A. 12
B. 13
C. 24
D. 25

13. Match the terms listed in Panel 1 with the description indicated in Panel 2 and choose the correct answer

Panel 1

L. Xerophyte
M. Orophyte
N. Mesophyte
O. Halophyte

Panel 2

I. Plants adapted to non-saline soil
II. Plants that grow in places with scanty water
III. Plants adapted to saline soils
IV. Plants inhabiting hills and mountains
V. Plants that grow under average conditions of temperature and moisture

A. L-II, M-IV, N-I, O-III
B. L-II; M-IV, N-V; O-III
C. L-II, M-I, N-V; O-III
D. L-V; M-I, N-IV, O-II

14. Which of the following statements regarding a catalyst is **wrong**?

A. A catalyst remains chemically unchanged at the end of the reaction
B. Only a small amount of catalyst is required
C. A catalyst initiates a chemical reaction
D. A catalyst is a substance which increases or decreases the rate of a reaction

15. In autochory, the plant itself carries out the dispersal of its propagules. Identify the mismatch with respect to self-dispersal in the following

A. Ballochory – transport by attachment of propagules to animals
B. Barochory – transport *via* gravity
C. Blastochory – dispersal *via* runners
D. Herpochory – transport *via* active creeping

16. An organism has cytosine as 20% of its bases. The relative percentages of guanine, adenine and thymine in its bases would be

A. 20%, 30% and 30%, respectively
B. 30%, 30% and 20%, respectively
C. 30%, 20% and 30%, respectively
D. 20%, 20% and 30%, respectively

17. In protocooperation, two organisms get mutually benefited and the relationship is

A. Obligatory
B. Not obligatory
C. Dependent on the organism
D. Similar to commensalism

18. Phytoremediation refers to the use of plants to remove, detoxify or immobilize environmental contaminants in soil, water or sediments. All the following statements regarding phytoremediation are true **except**

A. The plants can be easily monitored
B. The possibility of the recovery and re-use of valuable metal
C. It is potentially the least harmful method
D. The cost is very high as compared to other remedial methods

19. A researcher would like to prepare 1L of reaction buffer containing 10 mM Tris pH 7.0, 0.5 mM $MgCl_2$ and 0.01% NaN_3. He has the stocks of 2M Tris pH 7.0; 1M $MgCl_2$ and 1% NaN_3. What volumes of the given stock solutions he has to mix in distilled water for preparing 1L of the above reaction buffer?

A. 100 mL of Tris; 50 mL of $MgCl_2$ and 10 mL of NaN_3
B. 50 mL of Tris ; 5 mL of $MgCl_2$ and 1 mL of NaN_3
C. 50 mL of Tris; 50 mL of $MgCl_2$ and 10 mL of NaN_3
D. 5 mL of Tris; 0.5 mL of $MgCl_2$ and 10 mL of NaN_3

20. The action spectrum of photosynthesis is a measure of the ability of plants to

A. Absorb all wavelengths of light
B. Absorb light of different intensities
C. Use light to build up foods
D. Use light of different wavelengths for synthesis

21. National Botanical Research Institute, a research Institute of CSIR, engaged in research in the field of classical taxonomy and modern biology is located at

A. Delhi
B. Chandigarh
C. Lucknow
D. Mysore

22. The compound that is commonly used for producing artificial rain is

A. Silver nitrate
B. Silver chloride
C. Silver iodide
D. Potassium nitrate

23. Match the gene interactions given in Panel-A with inheritance pattern given in Panel B and choose the correct answer

Panel A	**Panel B**
L. Complementary epistasis (9:7)	I. Dominant allele at one locus masks expression at second locus
M. Recessive epistasis (9:3:4)	II. At least one dominant allele from each of two genes needed for phenotype
N. Dominant epistasis (12:3:1)	III. One dominant allele from either of two genes needed for the phenotype
O. Duplicate genes (15:1)	IV. Homozygous recessive genotype at one locus masks expression at second locus

A. L-III; M-IV; N-II; O-I
B. L-III; M-IV, N-I; O-II
C. L-II; M-IV; N-III; O-I
D. L-II; M-IV; N-I; O-III

24. *Bordetella pertussis* produces an exotoxin as a pathogenicity factor that causes increase in target cell cAMP level, decrease in ATP production and modifies the cellular functions. What could be the target of this exotoxin?

A. ADP ribosylation of the elongation factor 2
B. Calmodulin-activated adenylate cyclase
C. Mitogen-activated protein kinase
D. Zinc-dependent endopeptidase

25. When the pollen tube enters the ovules through the integuments, it is referred as

A. Pseudogamy
B. Mesogamy
C. Chalazogamy
D. Porogamy

PART-B

26. Which of the following statements about phytochromes is **incorrect**?

A. It is a heterodimer consisting of two different protein molecules conjugated to a light absorbing molecule
B. Plants make 5 phytochromes, Phy A, Phy B, Phy C, Phy D and Phy E
C. Phytochromes differ in their absorption spectra
D. Phytochromes exist in two interconvertible forms, PR and PFR

27. Which test can be undertaken to differentiate between Glucose and Fructose?

A. Benedict
B. Seliwanoff
C. Molisch
D. Osazone

28. Identify the pyrimidine base that contains an amino group at carbon 4 position

A. Adenine
B. Uracil
C. Cytosine
D. Thymine

29. *Neurospora crassa* is an extremely important research tool in genetics and biochemistry. This fungus belongs to the division

A. Ascomycota
B. Zygomycota
C. Chitridiomycota
D. Basidiomycota

30. All of the following statements are true about sickle-cell anemia **except**

A. It is an autosome-linked recessive trait
B. It is controlled by a single pair of alleles, HbA and HbS
C. There are two genotypes and heterozygous individuals show the diseased phenotype
D. It can be transmitted from parents to the offspring when both the partners are carriers for the gene

31. Vivipary occurs due to the deficiency of

A. Auxin
B. Abscisic acid
C. Cytokinin
D. Gibberellins

32. Which of the following is an ideal bioindicator?

A. Grass
B. Moss
C. Sedge
D. Sugarcane

33. Which among the following is a bactericidal antibiotic that binds to the small ribosomal subunit and inhibit protein synthesis in bacteria?

A. Bacitracin
B. Penicillin
C. Streptomycin
D. Vancomycin

34. Match the scientists names given in the Panel-A with their contributions given in the Panel-B and choose the correct answer

Panel-A

L. H. J. Muller

M. C. Bridges

N. B. McClintock

O. T. H. Morgan

Panel-B

I. Non-disjunction proof that chromosomes contain genes

II. Demonstration of extranuclear inheritance in higher plants

III. Mutagenic effect of X-rays in *Drosophila* flies

IV. Discovery of mobile genetic elements

V. Discovery of sex-linkage

A. L-III; M-I; N-IV; O-V
B. L-III; M-I; N-IV; O-II
C. L-V; M-I; N-IV; O-III
D. L-V; M-I; N-IV; O-II

35. Centriole is a

A. Structure in the cytoplasm of a cell that plays an important role in cell replication
B. Structure on chromosomes that defines the length of chromosomal arms
C. Structure present in the vacuole of a cell
D. Structure present in the nucleolus of a cell

36. Assuming Hardy-Weinberg equilibrium, the genotype frequency of heterozygotes, if the frequency of the two alleles at the gene being studied are 0.7 and 0.3 will be

A. 0.09
B. 0.21
C. 0.42
D. 0.49

37. Which of the following is **not** a coal combustion product?

A. Fly ash
B. Lime
C. Gypsum
D. Boron

38. What is the function of the Golgi apparatus?

A. Site of protein synthesis
B. Stores additional DNA, to be used during apoptosis
C. Sorts and packages proteins made in the endoplasmic reticulum
D. Site of cellular toxin degradation

39. Identify the mismatch between the type of enzyme and its example

A. Oxidoreductase – Lactate dehydrogenase
B. Hydrolase – Glucose-6-phosphatase
C. Ligase – Glutamate synthetase
D. Transferase – Fumarate hydratase

40. The outer membrane of Gram-negative bacteria is known to harbor the endotoxins in the lipopolysaccharide (LPS) complex. Which portion of the LPS is toxic?

A. Lipoprotein
B. Lipid A
C. Peptidoglycan
D. Oligosaccharide

41. The decrease in size and vigour in early generation of inbreeding is due to

A. Loss of superior genes
B. Reduction in the frequency of superior genes
C. Expression of many lethal and sub-vital recessive alleles
D. Loss of hybrid vigour

42. Which one of the following was used as a source of hydrogen by earliest photosynthesizers?

A. H_2S
B. H_2O
C. S
D. HCl

43. Which of the following is **not** composed of amino acids?

A. Glucagon
B. Collagen
C. Amylase
D. Cellulose

44. The eukaryotic RNA polymerase that transcribes transfer RNA is

A. RNA polymerase I
B. RNA polymerase II
C. RNA polymerase III
D. RNA polymerase IV

45. The association between mycorrhizae with the roots of plant species are considered

A. Commensalism
B. Amensalism
C. Mutualistic
D. Parasitic

46. The powerful inducers of proteinase inhibitors of plants that are involved in plant's defence response against insects are

A. Jasmonic acid
B. Salicylic acid
C. Gibberellic acid
D. Indole-3-acetic acid

47. Which of the following statements regarding the endosperm is **false**?

A. It is rich in nutrients, which it provides to the embryo
B. It develops from a triploid cell in 70% of the angiosperms
C. In gymnosperms, the endosperm grows from a spore and is haploid
D. The endosperm formed in gymnosperms is a diploid tissue

48. The cells of seaweed which actively absorb iodide ions from sea water would be expected to have large numbers of

A. Chloroplasts
B. Mitochondria
C. Ribosomes
D. Vacuoles

49. Where does glycolysis takes place?

A. Cytoplasm
B. Central matrix of the mitochondria
C. Cristae of the mitochondria
D. Nucleus

50. What is the net gain of ATP in anaerobic respiration?

A. 38
B. 2
C. 40
D. 4

51. A coenzyme is

A. An enzyme, which catalyzes a chemical reaction
B. A substance, which regulates enzyme activity
C. A substrate, made of amino acids
D. An alternative name for apoenzyme

52. All the following statements about Tobacco mosaic virus (TMV) are true **except**

A. It is a single stranded RNA virus that infects plants, especially tobacco
B. It is the first virus to be chemically purified
C. It is primarily transmitted by mechanical means
D. It can infect human cells and cause health complications

53. The dominating model species for studies on plant developmental biology is

A. *Secale cereale* L.
B. *Gossypium hirsutum* L.
C. *Pisum sativum* L.
D. *Arabidopsis thaliana* L.

54. In photosynthesis, oxygen in glucose is derived from

A. Water
B. Partly water and partly CO_2
C. Carbon dioxide
D. Not known

55. Which among the following is the most appropriate equation for N_2 fixation?

A. $N_2 + 12H^+ + 12e^- + 12ATP \longrightarrow 2NH_3 + 4H_2 + 12ADP + 12P_i$
B. $N_2 + 10H^+ + 10e^- + 14ATP \longrightarrow 2NH_3 + 2H_2 + 14ADP + 14P_i$
C. $N_2 + 8H^+ + 8e^- + 14ATP \longrightarrow 2NH_3 + 2H_2 + 14ADP + 14P_i$
D. $N_2 + 8H^+ + 8e^- + 16ATP \longrightarrow 2NH_3 + H_2 + 16ADP + 16P_i$

56. The removal of a ring of bark from the trunk of a tree eventually kills it because

A. Mineral salts cannot go up
B. Assimilates cannot be translocated
C. Water cannot go up
D. Intermediate stoppage of photosynthesis

57. When male, female and bisexual flowers are borne on the same plant, it is referred as

A. Polygamous
B. Androecious
C. Gynoecious
D. Monoecious

58. Which of the following statements is **not true**?

A. Phenols are more acidic compared to alcohols
B. Unlike aldehydes, ketones are not easily oxidized
C. Oxalic acid is a tricarboxylic acid
D. Benzoic acid is an aromatic acid

59. When two genotypes of genetic constitution AABBCc X AABBcc are mated the resulting progeny would be in the following proportion

A. ¼ AABBCc; ¾ AABbcc
B. ½ AABBCc; ½ AABBcc
C. ½ AaBBCc; ½ AABBcc
D. ½ AABbCc; ½ AABBcc

60. Haploid production by wide hybridization followed by zygotic embryo culture was reported by Kasha and Kasha in 1970 in

A. *Hordeum vulgare* L.
B. *Oryza sativa* L.
C. *Solanum lycopersicum* L.
D. *Secale cereale* L.

61. The organization of meristems differs in angiosperms, gymnosperms and pteridophytes. Identify the **incorrect** statement with respect to meristem organization

A. Pteridophytes possess a single meristematic cell
B. The vegetative meristem in gymnosperms lacks organization into distinct tunica and corpus
C. The gymnosperms do not have any vegetative meristem
D. The outermost layer of meristem cells in angiosperms divides anticlinally to generate the new cells

62. The conversion of pyruvate to acetyl CoA occurs in

A. Mitochondrial matrix
B. Cytosol
C. Nucleus
D. Thylakoid membrane

63. What is the **correct** order of steps in a mutagenesis screen?

A. Positional cloning, mutagenesis, identify mutants, verify genetic basis
B. Mutagenesis, positional cloning, identify mutants, verify genetic basis
C. Mutagenesis, identify mutants, verify genetic basis, positional cloning
D. Identify mutants, positional cloning, mutagenesis, verify genetic basis

64. Which of the following molecular markers requires Southern hybridization for its identification?

A. Random Amplified Polymorphic DNA
B. Restriction Fragment Length Polymorphism
C. Inter Simple Sequence Repeats
D. Single Nucleotide Polymorphism

65. *Cinnamomum camphora* which is a source of camphor belongs to the family

A. Euphorbiaceae
B. Lauraceae
C. Santalaceae
D. Malvaceae

66. Mosses and ferns, which belong to bryophytes and pteridophytes respectively, resemble the amphibians in the animal kingdom in what respect?

A. They have same pattern of nutrition
B. They have common sensory organ which help them to recognize their food
C. They have common sensory organ which help them to recognize their enemy
D. They require an external source of water for male gametes to swim to female gametes for fertilization during sexual reproduction

67. In case of single crossovers between two-linked genes, the frequency of recombinant gametes is half the frequency of crossing-over because

A. A testcross between a homozygote and heterozygote produces ½ heterozygous and ½ homozygous progeny
B. The frequency of recombination is always 50%
C. Each crossover takes place between only two of the four chromatids of a homologous pair
D. Crossovers occur in about 50% of meiosis

68. Alginic acid that is widely used in food, textile and pharmaceutical industry as gelling or thickening agent, is a major constituent of

A. Phycocolloid and commercially extracted from giant brown algae
B. Phycobillins conjugated with heavy metals and commercially extracted from giant brown algae
C. Phycocolloid conjugated with heavy metals and commercially extracted from red algae
D. Phycocolloid and commercially extracted from green algae

69. Transpeptidation is a crucial step in the biosynthesis of bacterial cell wall. Antibiotics that inhibit the transpeptidation are routinely used for therapeutic purposes for bactericidal effects. What could be the substrate for one such antibiotic vancomycin?

A. Carboxypeptidase
B. D-Ala-D-Ala
C. Transpeptidase
D. mDPA-L-Ala

70. Saffron, obtained from *Crocus sativus* L., is a spice that is used in cooking as a seasoning and as a food colouring agent. Which part of *Crocus sativus* is used to make saffron?

A. Leaves
B. Stigma
C. Corm
D. Petals

71. If an affected male has affected daughters and sons in about the same number as unaffected daughters and sons, the trait is likely to be an

A. X-linked dominant trait
B. X-linked recessive trait
C. Autosomal recessive trait
D. Autosomal dominant trait

72. Zoonotic describes a situation caused by a

A. Parasitic organism that is normally found in animals
B. Nematihelminth parasite in human beings
C. Parasitic animal infecting the plants
D. Parasitic organism that is normally found in humans

73. Which of the following plants is the smallest flowering plant on earth?

A. *Lemma*
B. *Rafflesia*
C. *Wolffia*
D. *Sequoia*

74. Taxol, an anticancer drug, isolated from the bark of *Taxus brevifolia* is classified as

A. Terpenoid
B. Flavonoid
C. Polyketide
D. Phenylpropanoid

75. The molecule that confers acidic nature on DNA is

A. Nitrogenous base
B. Phosphate
C. Pentose sugar
D. Hydrogen

76. Conjugation between F^+ and F^- cells usually results in

A. Two F^- cells
B. Two F^+ cells
C. One F^+ cell and one F^- cell
D. Two Hfr cells

77. The output of glycolysis if one glucose molecule metabolizes

A. 2 Pyruvate, 2 ATP and 2 NADH
B. 4 Pyruvate, 2 ATP and 2 NADH
C. 4 Pyruvate, 4 ATP and 2 NADH
D. 2 Pyruvate, 4 ATP and 4 NADH

78. Photosynthesis takes place in the membranes of small sacs called

A. Thylakoids
B. Grana
C. Stroma
D. Chloroplast

79. Tetracylines are a family of antibiotics with a common four-ring structure to which a variety of side chains are attached. Several of these tetracyclines are produced naturally by the members of this genus

A. *Bacillus*
B. *Cephalosporium*
C. *Nocardia*
D. *Streptomyces*

80. The hexaploid (2n = 6x = 42) genome of wheat contains chromosomes derived from three different wild species which includes all of the following **except**

A. *Triticum monococcum*
B. *Triticum dicoccum*
C. *Triticum searsii*
D. *Triticum tauschii*

81. Which of the following amino acids is a precursor for niacin?

A. Phenylalanine
B. Cysteine
C. Tryptophan
D. Tyrosine

82. Presence of viable bacteria in the blood of the infected animal is referred to as

A. Pyogenic
B. Bacteremia
C. Septicemia
D. Systemic

83. If AABB is crossed to aabb, and the F_1 is test-crossed, what percent of the testcross progeny will be AABB if the two genes are 16 map units apart?

A. 8%
B. 16%
C. 32%
D. 42%

84. Which of the following mating combinations between male and female parents is compatible when sporophytic self-incompatibility is operational in these parents?

A. ♀ Ss X SS ♂
B. ♀ SS X Ss ♂
C. ♀ Ss X Ss ♂
D. ♀ Ss X ss ♂

85. Which of the following monosaccharides is **not** a carboxylic acid?

A. Muramic acid
B. Glucose
C. Gluconate
D. Glucuronate

86. One among the following is **not** a food preservative

A. Propionic acid
B. Benzoic acid
C. Sodium diacetate
D. Cinnamic acid

87. The diploid chromosome number of rice is 2n = 24. How many chromosomes and DNA molecules will be found per cell when its meiocyte progresses to the Metaphase-1 of meiosis?

A. 24 chromosomes and 48 DNA molecules
B. 48 chromosomes and 48 DNA molecules
C. 24 chromosomes and 24 DNA molecules
D. 12 chromosomes and 24 DNA molecules

88. Which of the following is the **correct** sequence for gene transfer procedures?

A. Cleaving → DNA Cloning → Screening → Recombining DNA
B. Screening → Cleaving DNA → Cloning → Recombining DNA
C. Cleaving DNA → Recombining → DNA Cloning → Screening
D. Recombining → DNA Screening → Cloning → Cleaving DNA

89. Blood poisoning associated with persistence of pathogenic organisms or their toxins in the blood is often referred as

A. Latrogenic
B. Fulminating
C. Pyogenic
D. Septicemia

90. Voges-Proskauer test is a procedure that detects the presence of

A. Butanediol
B. Lactate
C. Acetoin
D. Pyruvate

91. What will be the probability to derive heads twice consecutively followed by a tail when a coin is tossed three times?

A. 1/8
B. 1/3
C. 2/3
D. 1/4

92. pi and psi angles for secondary structures of protein are also called

A. Torsion angle
B. Trihedral angle
C. Dipeptide angle
D. Quadrangle

93. If a radioactive isotope has a smaller proton/neutron ratio in its nucleus than the corresponding stable isotope, it would emit

A. Positron
B. Neutron
C. α-particle
D. Electron

94. Identify the mismatch in the following

A. Raffinose is a trisaccharide
B. Glucose is an aldohexose
C. Fructose is a ketohexose
D. Mannose is an aldopentose

95. Which of the following is **not** a characteristic feature of aromatic compounds?

A. Cyclic
B. Usually very unstable
C. Uses a p atomic orbital to form π-type bonds
D. High degree of unsaturation but resistant to addition reactions

96. Identify the mismatch from the following

A. Halophile - Salt
B. Osmophile - Solute
C. Oligophile - Pressure
D. Alkaliphile - pH

97. For microbial growth, Molasses is a very good source of

A. Oxygen
B. Carbon
C. Phosphorus
D. Heavy metals

98. An infection developed during a stay at a hospital or other clinical care facility is often referred to as

A. Latent
B. Nosocomial
C. Opportunistic
D. Secondary

99. Stickland reaction is

A. between two amino acids, in which one amino acid is oxidized and a second amino acid acts as an electron acceptor
B. between an amino acid and a keto-acid, in which the amino acid is oxidized and the keto-acid acts as an electron acceptor
C. between an amino acid and a keto-acid, in which the amino acid donates amino group and the keto-acid acts as an amino acceptor
D. between two keto-acids, in which one keto-acid is oxidized and a second keto-acid acts as an electron acceptor

100. If a mRNA sequence is CUC AAG UGC UAC, its complementary anticodon (on tRNA) will be

A. GTG TTC TCG TUG
B. GAG UUC ACG AUG
C. GUG AAC UCG UAG
D. CAC UUG AGC AUC