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Test Paper : III	To at Do ald at Contal No.	
Test Subject : LIFE SCIENCE	Test Booklet Serial No. :	
	OMR Sheet No.:	
Test Subject Code : K-2813	Roll No. (Figures as per admission card)	
Name & Signature of Invigilator/s		
Signature:	Signature:	
Name :	Name :	
Paper : Subject :	III LIFE SCIENCE	
Time : 2 Hours 30 Minutes	Maximum Marks : 150	
Number of Pages in this Booklet : 16	Number of Questions in this Booklet : 75	
ಅಭ್ಯರ್ಥಿಗಳಿಗೆ ಸೂಚನೆಗಳು 1. ಈ ಪುಟದ ಮೇಲ್ತುದಿಯಲ್ಲಿ ಒದಗಿಸಿದ ಸ್ಥಳದಲ್ಲಿ ನಿಮ್ಮ ರೋಲ್ ನಂಬರನ್ನು ಬರೆಯಿರಿ. 2. ಈ ಪತ್ರಿಕೆಯು ಬಹು ಆಯ್ಕೆ ವಿಧದ ಎಪ್ಪತ್ತ್ರೆದು ಪ್ರಶ್ನೆಗಳನ್ನು ಒಳಗೊಂಡಿದೆ. 3. ಪರೀಕ್ಷೆಯ ಪ್ರಾರಂಭದಲ್ಲಿ, ಪ್ರಶ್ನೆಪ್ರಸ್ತಿಕೆಯನ್ನು ನಿಮಗೆ ನೀಡಲಾಗುವುದು. ಮೊದಲ5 ನಿಮಿಷಗಳಲ್ಲಿ ನೀವು ಪ್ರಸ್ತಿಕೆಯನ್ನು ತೆರೆಯಲು ಮತ್ತು ಕೆಳಗಿನಂತೆ ಕಡ್ಡಾಯವಾಗಿ ಪರೀಕ್ಷಿಸಲು ಕೋರಲಾಗಿದೆ. (i) ಪ್ರಶ್ನೆ ಪ್ರಸ್ತಿಕೆಗೆ ಪ್ರವೇಶಾವಕಾಶ ಪಡೆಯಲು, ಈ ಹೊದಿಕೆ ಪುಟದ ಅಂಚಿನ ಮೇಲಿರುವ ಪೇಪರ್ ಸೀಲನ್ನು ಹರಿಯಿರಿ. ಸ್ಪಿಕ್ಟರ್ ಸೀಲ್ ಇಲ್ಲದ ಪ್ರಶ್ನೆಪ್ರಸ್ತಿಕೆ ಸ್ವೀಕರಿಸಬೇಡಿ. ತೆರೆದ ಪುಸ್ತಿಕೆಯನ್ನು ಸ್ವೀಕರಿಸಬೇಡಿ. (ii) ಪ್ರಸ್ತಿಕೆಯಲ್ಲಿನ ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ ಮತ್ತು ಪುಟಗಳ ಸಂಖ್ಯೆಯನ್ನು ಮುಖಪುಟದ ಮೇಲೆ ಮುದ್ರಿಸಿದ ಮಾಹಿತಿಯೊಂದಿಗೆ ತಾಳೆ ನೋಡಿರಿ. ಪುಟಗಳು/ ಪ್ರಶ್ನೆಗಳು ಕಾಣೆಯಾದ, ಅಥವಾ ದ್ವಿಪ್ರತಿ ಅಥವಾ ಅನುಕ್ರಮವಾಗಿಲ್ಲದ ಅಥವಾ ಇತರ ಯಾವುದೇ ವೃತ್ಯಾಸದ ದೋಷಪೂರಿತ ಪುಸ್ತಿಕೆಯನ್ನು ಕೂಡಲೆ5 ನಿಮಿಷದ ಅವಧಿ ಒಳಗೆ, ಸಂವೀಕ್ಷಕ್ಕರಿಂದ ಸರಿ ಇರುವ ಪುಸ್ತಿಕೆಗೆ ಬದಲಾಯಿಸಿಕೊಳ್ಳಬೇಕು. ಆ ಬಳಿಕ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಬದಲಾಯಿಸಲಾಗುವುದಿಲ್ಲ, ಯಾವುದೇ ಹೆಚ್ಚು ಸಮಯವನ್ನೂ ಕೊಡಲಾಗುವುದಿಲ್ಲ. 4. ಪ್ರತಿಯೊಂದು ಪ್ರಶ್ನೆಗೂ(A), (B), (C) ಮತ್ತು (D) ಎಂದು ಗುರುತಿಸಿದ ನಾಲ್ಕು ಪರ್ಯಾಯ ಉತ್ತರಗಳಿವೆ. ನೀವು ಪ್ರಶ್ನೆಯ ಎದುರು ಸರಿಯಾದ ಉತ್ತರದ ಮೇಲೆ, ಕೆಳಗೆ ಕಾಣಿಸಿದಂತೆ ಅಂಡಾಕೃತಿಯನ್ನು ಕಪ್ಪಾಗಿಸಬೇಕು. ಉದಾಹರಣೆ: (A) (B)	Instructions for the Candidates 1. Write your roll number in the space provided on the top of this page. 2. This paper consists of seventy five multiple-choice type of questions. 3. At the commencement of examination, the question booklet will be given to you. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as below: (i) To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker-seal and do not accept an open booklet. (ii) Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given. 4. Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the oval as indicated below on the correct response against each item. Example: A B D	
(C) ಸರಿಯಾದ ಉತ್ತರವಾಗಿದ್ದಾಗ. 5. ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಗಳನ್ನು, ಪತ್ರಿಕೆ ಪುಸ್ತಿಕೆಯೊಳಗೆ ಕೊಟ್ಟಿರುವ OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಮಾತ್ರವೇ ಸೂಚಿಸತಕ್ಕದ್ದು. OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿನ ಅಂಡಾಕೃತಿ ಹೊರತುಪಡಿಸಿ ಬೇರೆ ಯಾವುದೇ ಸ್ಥಳದಲ್ಲಿ ಗುರುತಿಸಿದರೆ, ಅದರ ಮೌಲ್ಯ ಮಾಪನ ಮಾಡಲಾಗುವುದಿಲ್ಲ.	where (C) is the correct response. 5. Your responses to the question of Paper III are to be indicated in the OMR Sheet kept inside the Booklet . If you mark at any place other than in the ovals in OMR Answer Sheet, it will not be evaluated.	
6. OMR ಉತ್ತರ ಹಾಳೆಯಲ್ಲಿ ಕೊಟ್ಟ ಸೂಚನೆಗಳನ್ನು ಜಾಗರೂಕತೆಯಿಂದ ಓದಿರಿ.	6. Read the instructions given in OMR carefully.	
 ಎಲ್ಲಾ ಕರಡು ಕೆಲಸವನ್ನು ಪುಸ್ತಿಕೆಯ ಕೊನೆಯಲ್ಲಿ ಮಾಡತಕ್ಕದ್ದು. ನಿಮ್ಮ ಗುರುತನ್ನು ಬಹಿರಂಗಪಡಿಸಬಹುದಾದ ನಿಮ್ಮ ಹೆಸರು ಅಥವಾ ಯಾವುದೇ ಚಿಹ್ನೆಯನ್ನು, ಸಂಗತವಾದ ಸ್ಥಳ ಹೊರತು ಪಡಿಸಿ, OMR ಉತ್ತರ ಹಾಳೆಯ ಯಾವುದೇ ಭಾಗದಲ್ಲಿ ಬರೆದರೆ, ನೀವು ಅನರ್ಹತೆಗೆ ಬಾಧ್ಯರಾಗಿರುತ್ತೀರಿ. 	7. Rough Work is to be done in the end of this booklet. 8. If you write your name or put any mark on any part of the OMR Answer Sheet, except for the space allotted for the relevant entries, which may disclose your identity, you will render yourself liable to disqualification.	
9. ಪರೀಕ್ಷೆಯು ಮುಗಿದನಂತರ, ಕಡ್ಡಾಯವಾಗಿ OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ಸಂವೀಕ್ಷಕರಿಗೆ ನೀವು ಹಿಂತಿರುಗಿಸಬೇಕು ಮತ್ತು ಪರೀಕ್ಷಾ ಕೊಠಡಿಯ ಹೊರಗೆ OMR ನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ಕೊಂಡೊಯ್ಯ ಕೂಡದು.	at the end of the examination compulsorily and must NOT carry it with you outside the Examination Hall.	
10. ಪರೀಕ್ಷೆಯ ನಂತರ, ಪರೀಕ್ಷಾ ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆಯನ್ನು ಮತ್ತು ನಕಲು OMR ಉತ್ತರ ಹಾಳೆಯನ್ನು ನಿಮ್ಮೊಂದಿಗೆ ತೆಗೆದುಕೊಂಡು ಹೋಗಬಹುದು.	10. You can take away question booklet and carbon copy of OMR Answer Sheet soon after the examination.	

● 12. ಕ್ಯಾಲ್ಕುಲೇಟರ್ ಅಥವಾ ಲಾಗ್ ಟೇಬಲ್ ಇತ್ಯಾದಿಯ ಉಪಯೋಗವನ್ನು ನಿಷೇಧಿಸಲಾಗಿದೆ.

12. ಕ್ಯಾಲ್ಕುಲೇಟರ್ ಅಥವಾ ಲಾಗ್ ಟೇಬಲ್ ಇತ್ಯಾದಿಯ ಉಪಯೋಗವನ್ನು ನಿಷೇಧಿಸಲಾಗಿದೆ.

13. ಸರಿ ಅಲ್ಲದ ಉತ್ತರಗಳಿಗೆ ಋಣ ಅಂಕ ಇರುವುದಿಲ್ಲ .

13. There is no negative marks for incorrect answers.

11. Use only Blue/Black Ball point pen.

11. ನೀಲಿ/ಕಪ್ಪು ಬಾಲ್ಪಾಯಿಂಟ್ ಪೆನ್ ಮಾತ್ರವೇ ಉಪಯೋಗಿಸಿರಿ.

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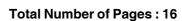
LIFE SCIENCE

Paper - III

Note: This paper contains **seventy-five** (75) objective type questions. **Each** question carries **two** (2) marks. **All** questions are **compulsory**.

- **1.** The type of mutation in which purine nucleotide is replaced by pyrimidine
 - (A) Transition
 - (B) Transversion
 - (C) Deletion
 - (D) Inversion
- 2. Coat color in rabbit is an example for
 - (A) Epistasis
 - (B) Multiple alleles
 - (C) Polygenes
 - (D) Pleiotrophy
- **3.** Which of the following helps in cell-cell adhesion?
 - I) Integrin
 - II) Trypsin
 - III) Cadherin
 - IV) Fibrin
 - (A) I and II are correct
 - (B) I and III are correct
 - (C) III and IV are correct
 - (D) II and IV are correct

- **4.** Which of the following cells can grow as suspension culture ?
 - (A) Raji cells
 - (B) MRC-5
 - (C) WI-38
 - (D) IMR-90
- **5.** Which of the following is a knock out mouse?
 - (A) Oncomouse
 - (B) Prostate mouse
 - (C) SCID mouse
 - (D) Human mouse
- 6. What is the function of ear of mammals?
 - i) Vertical posture while at work
 - ii) Balancing
 - iii) Sense detection
 - iv) Deciding the direction
 - (A) i is correct and ii is wrong
 - (B) i and iv are wrong
 - (C) ii and iii are correct
 - (D) i is correct iii is wrong





- 7. Antibiotic streptomycin inhibits the protein synthesis in prokaryotes. The mechanism is by
 - (A) Prevents the initiation process
 - (B) Interact with 30S subunit and destabilize the entire initiation complex formed.
 - (C) Prevents the binding of 50S subunit
 - (D) Inhibit the elongation process.
- **8.** Antigenic determinants bird to which portion of an antibody
 - (A) variable regions
 - (B) constant regions
 - (C) only light chains
 - (D) only heavy chains
- $\textbf{9.} \ \ \mathsf{SH}_2 \ \mathsf{domines} \ \mathsf{specifically} \ \mathsf{bind} \ \mathsf{to}$
 - (A) phosphorylated serine/threonine
 - (B) phosphorylated tyrosine residues
 - (C) positively changed domains
 - (D) lipid rafts

- 10. The <u>E</u>. <u>Coli</u> chromosome has 5×10^6 bp . A replication form progresses at about 1000 nucleotides/sec. Therefore, the minimum time required to complete replication is about
 - (A) 10 min.
 - (B) 20 min.
 - (C) 40 min.
 - (D) 80 min.
- 11. How many high energy bonds are used to synthesize one mole of urea in area cycle?
 - (A) 2
 - (B) 3
 - (C) 4
 - (D) 5
- **12.** The mechanism of action of dinitrophenol on oxidative phosphorylation
 - (A) Inhibition of cytochrome reductase
 - (B) Dissociation of F₀ F₁ subunits
 - (C) Dissipating proton gradient
 - (D) All the above

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13. In prokaryotes, protein synthesis rates are limited by the rate of mRNA synthesis. RNA synthesis occurs at about 50 nucleotides/sec. Therefore protein synthesis occurs at about ____ amino acid/sec.

- (A) 10
- (B) 17
- (C) 25
- (D) 34
- **14.** In mammalian nuclei, the immediate product of gene transcription is
 - (A) m RNA
 - (B) t RNA
 - (C) r RNA
 - (D) hn RNA
- **15.** India has been divided into following biogeographic zones
 - (A) 10
 - (B) 15
 - (C) 20
 - (D) 25

- 16. Silica is an essential nutrient for
 - (A) diatoms
 - (B) euglena
 - (C) coelenterata
 - (D) protozoa
- **17.** Time lapse between two successive generation is called
 - (A) generation time
 - (B) exponential phase
 - (C) population growth
 - (D) growth sequence
- **18.** The following is the largest among the animal kingdom
 - (A) echinodermata
 - (B) arthropoda
 - (C) protozoa
 - (D) mollusca



- 19. The zone at the edge of a lake or ocean which is alternately exposed to air and immersed in water is called
 - (A) Pelagic zone
 - (B) Benthic zone
 - (C) Lentic zone
 - (D) Littoral zone
- **20.** Dowry mildews are caused by the members of
 - (A) Erysiphales
 - (B) Taphrinales
 - (C) Ustilaginals
 - (D) Peronosporales
- **21.** The percentage of light energy in photosynthesis is generally around
 - (A) 0.1%
 - (B) 1%
 - (C) 10%
 - (D) 100%

- **22.** Which of the following is heterofermentative microorganism?
 - (A) Leuconostoc mesenteroides
 - (B) Lactobacillus bifidum
 - (C) <u>Lactobacillus</u> <u>bulgaricus</u>
 - (D) Lactobacillus pentose
- **23.** Growth hormone producing apical dominance is
 - (A) Auxin
 - (B) Gibberellin
 - (C) Ethylene
 - (D) Cytokinin
- 24. Microbiosensors are based on
 - (A) ions effect
 - (B) ion sensitive fluid effect transistor
 - (C) piezoelectric effect
 - (D) magnetic effect

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- **25.** What was the first genetic disease that was successfully traced with gene therapy?
 - (A) Down syndrome
 - (B) SCID (ADA) deficiency
 - (C) Cystic fibrosis
 - (D) Sickle cell anemia
- **26.** Malarial parasite is transmitted to human host by
 - (A) Male Anophilis
 - (B) Female Anophilis
 - (C) Female Culex
 - (D) Male Aedes
- 27. Depletion of ozone concentration in the atmosphere is a cause of concern because
 - (A) Ozone is precursor of oxygen
 - (B) Ozone is needed for photosynthesis
 - (C) Ozone is precursor of CO₂
 - (D) Ozone protects us from UV radiation

28. An enzyme was subjected to purification by ammonium sulphate fractionation. The results are as follows:

	Activity	Protein
Crude enzyme	100 lu/ml	10 mg/ml
Ammonium sulphate	50 lu/ml	1 mg/ml
fraction		

The fold of purification achieved is

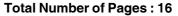
- (A) 2
- (B) 5
- (C) 10
- (D) 50
- 29. Respiratory organ in scorpion is
 - (A) Lungs
 - (B) Trachae
 - (C) Book lungs
 - (D) Skin
- 30. Which measure of central tendency is most affected by extreme values of the distribution?
 - (A) Mode
 - (B) Median
 - (C) Arithmetic mean
 - (D) Geometric mean



- 31. To which phylum sponges belong?
 - (A) Cocleuterata
 - (B) Mollusca
 - (C) Annelida
 - (D) Porifera
- **32.** Which of the following is a bird?
 - (A) Vipera ruselli
 - (B) Rana Tigerina
 - (C) Labeo rohita
 - (D) Corous splendous
- **33.** The correct sequence of stages in prophase of mitosis I is
 - (A) Leptotene Zygotene Pachytene
 - Diplotene Diakenesis
 - (B) Diplotene Pachytene Zygotene
 - Leptotene Diakinesis
 - (C) Diakinesis Zygotene Leptotene
 - Diplotene Pachyte
 - (D) Pachytene Diakinesis –Diplotene Zygotene Leptotene

- **34.** In which of the following approximate number of predicted genes is 25,500 ?
 - (A) Drosophila melanogaster
 - (B) Coenorhabdites elegans
 - (C) Arabiodopsis thaliana
 - (D) Saceharomyces cerevisiae
- **35.** Who got Nobel Award for discovering manoclonal antibodies ?
 - (A) R. R. Porter and G. E. Kohler
 - (B) C. Milstein and G. E. Kohler
 - (C) F. M. Burnett and C. Medawar
 - (D) E. D. Thomas and J. Murray
- **36.** Which of the following contribute to innate immunity?
 - i) Lysozyme
 - ii) Interferon
 - iii) Complement
 - iv) All the above
 - (A) i
 - (B) ii and iii
 - (C) iv
 - (D) ii

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- **37.** Human RBC consists of how many chromosomes?
 - (A) 46 chromosomes
 - (B) 23 chromosomes
 - (C) No chromosomes
 - (D) 48 chromosomes
- 38. Proteins are glucosylated
 - (A) Ribosome
 - (B) Lysosome
 - (C) Plasma membrane
 - (D) Golgi complex
- **39.** Which of the following is not true of DNA?
 - (A) A pair with T and G pairs with C
 - (B) Nitrogen bases are 0.34 nm on a DNA strand
 - (C) The double helix is 2.0 nm wide
 - (D) The double helix is 3.4 nm wide
- **40.** Multiple cloning site in a pUC 18 plasmid is present _____
 - (A) Within Amp^r gene
 - (B) Outside the Lac Z gene
 - (C) Within Ori site
 - (D) Within Lac Z gene

- 41. High yielding wheat plants are usually
 - (A) Haploids
 - (B) Diploids
 - (C) Polyploids
 - (D) Aneuploids
- **42.** _____ is a condition where cancer cells are derived from all three germ layers.
 - (A) Teratoma
 - (B) Melanoma
 - (C) Sarcoma
 - (D) Carcinoma
- **43.** A mutant embryo of <u>Drosophila</u> for nanos was injected with bicoid mRNA in its posterior pole at early cleavage state. What will be the phenotype of the resulting embryo?
 - (A) Embryo will develop head on both anterior and posterior side
 - (B) Embryo will develop head only at anterior end only
 - (C) Embryo will develop head only at posterior end only
 - (D) Embryo will develop two heads

44. The location or the SRY gene on Y chromosome is _____

- (A) Yp 11.3
- (B) Yq 11.3
- (C) Yp 1.13
- (D) Yq 1.13

45. An insect larva is a

- (A) Miniature vision of the adult
- (B) Sexually immature organism specialized for eating and growth
- (C) Stage that ensures more genetic variation
- (D) Dormant stage in the insect cycle
- **46.** Sex determination in plants was extensively investigated in
 - (A) Pisum Sativum
 - (B) Phaseolus Vulgaris
 - (C) Melandrium
 - (D) Arabidopsis Thaliana

- **47.** _____ is the endocrine gland.
 - (A) Salivary gland
 - (B) Gastric gland
 - (C) Pineal gland
 - (D) Intestinal gland
- **48.** The progeny of the cross between white eyed females and red eyed males is
 - (A) White eyed males and red eyed females
 - (B) White eyed females and red eyed males
 - (C) Red eyed males and white eyed females
 - (D) White eyed males and females
- **49.** Two plants those are heterozygous for both traits are crossed. What fraction of the off spring will have the genotype Aabb?
 - (A) 1/8
 - (B) 1/16
 - (C) 1/4
 - (D) 1/2

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- **50.** Random changes in the frequencies of alleles within a small population is
 - (A) Genetic load
 - (B) Genetic drift
 - (C) Heterosis
 - (D) Homeostasis
- 51. Charles Darwin
 - (A) accepted Mendel's laws of heredity
 - (B) rejected Mendel's laws of heredity
 - (C) rediscovered Mendel's laws of heredity
 - (D) was unaware of Mendel's lows of heredity
- **52.** Organs similar in shape and function but their origin, basic plan and development are dissimilar are called
 - (A) homologous
 - (B) paralogous
 - (C) analogous
 - (D) orthologous

- - (B) Sea coasts

(A) His gardens

- (C) Green forests
- (D) Galapagos Island

53. Darwin's natural laboratories are

- **54.** Blue light is used for greater resolution of object under microscopy rather than red light, it is because
 - (A) the wavelength of blue light is shorter
 - (B) the wave length of red light is shorter
 - (C) the wavelength of red light is mixes with other light
 - (D) the wavelength of blue light is longer
- 55. Determination of the order of monomers in a linear polymer of the nucleotides in a DNA strand
 - (A) DNA finger printing
 - (B) DNA profiling
 - (C) DNA polymorphism
 - (D) DNA sequencing

Paper III (10) K-2813

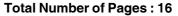




- **56.** Flow cytometry is used for
 - (A) separation of proteins
 - (B) separation of carbohydrates
 - (C) identification of cell types
 - (D) search of DNA
- 57. Site specific nucleotide changes in a gene cloned into M13 vector can be introduced by _____
 - (A) EMS
 - (B) Radiations
 - (C) Oligonucleotide extension
 - (D) Homologous recombination
- **58.** The transcriptase of a cell is defined as
 - (A) all the RNA molecules present in a cell
 - (B) the transfer RNA molecules present in a cell
 - (C) the protein coding RNA molecules present in a cell
 - (D) the ribosomal RNA molecules present in a cell

- 59. The protease of a cell is defined as
 - (A) all of the proteins that a cell is capable of synthesizing
 - (B) all of the proteins present in a cell over the cell's life time
 - (C) all of the proteins that are expressed in a cell at a given time
 - (D) all of the proteins present in a cell
- 60. Utility of artificial chromosome is
 - (A) to clone large DNA segment
 - (B) to clone 10 kb DNA segment
 - (C) to clone 1 kb DNA segment
 - (D) to clone any RNA
- **61.** The activation of receptor tyrosine kinases is characterized by
 - (A) Dimerization and phosphorylation
 - (B) IP₃ binding
 - (C) Phosphorylation cascade
 - (D) GTP hydrolysis

K-2813 (11) Paper III



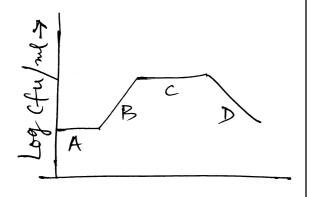


- **62.** In a distribution that is skewed in the negative direction
 - (A) the mean will be greater than the median
 - (B) the median will be greater than the mean
 - (C) the median will be greater than the variance
 - (D) the mean will be greater than the mode
- **63.** The sequence of events involved in all signalling is
 - (A) transduction → reception → response
 - (B) response → reception → transduction
 - (C) reception → response → transduction
 - (D) reception → transduction → response
- **64.** The melting temperature of the following sequence is
 - 5' GAGCTGTAGCCTATGCTC 3'
 - (A) 62°C
 - (B) 56°C
 - (C) 58°C
 - (D) 54°C

- **65.** The effect of interspecific competition on niches is making them
 - (A) smaller
 - (B) larger
 - (C) change location
 - (D) no change
- 66. The ability of <u>Vibrio fischeri</u> to produce bioluminescence chemicals only when a certain population density has been reached. This is an example of
 - (A) Leibigs law of the minimum
 - (B) Sheeford's law of Aolerance
 - (C) Quorum sensing
 - (D) Husenberg's principle of uncertainity
- **67.** Ionophones are small molecules helps in permeability of specific in organic ions
 - (A) hydrophobic
 - (B) hydrophilic
 - (C) amphiphilic
 - (D) uniport



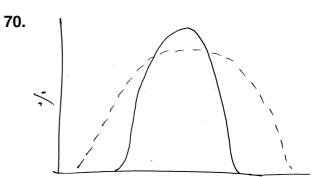
68. Use this typical growth curve to solve the following question



Time \rightarrow

Which section shows a growth phase when numbers of cells dying equals the number of cells dividing?

- (A) A
- (B) B
- (C) C
- (D) D
- **69.** Neutral theory of molecular evolution emphasizes
 - (A) purifying selection and random genetic drift
 - (B) gene migration and mutation
 - (C) mutation and disruptive selection
 - (D) mutation and group selection



Range of Phenotype

The image exhibits the range of phenotype of original population (---) and evolved population (----).

This type of selection is called ______

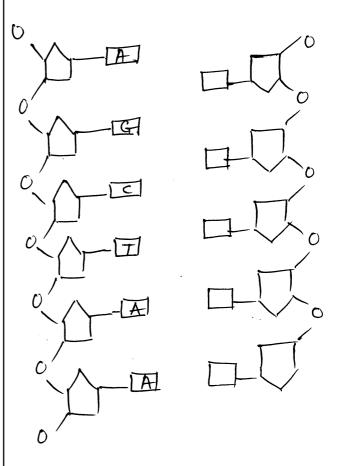
- (A) Disruptive selection
- (B) Group selection
- (C) Stabilizing selection
- (D) Directional selection
- 71. Oxidation numbers of nitrogen in NaNO₃ is
 - (A) + 5
 - (B) + 4
 - (C) + 3
 - (D) + 2

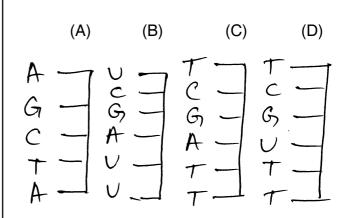




- **72.** Which of the following parasite is transmitted by tse-tse fly?
 - (A) Entamoeba histolitica
 - (B) Trypanosoma gamiense
 - (C) Leishmania donovani
 - (D) Plasmodium falciparum
- **73.** The regulator which is involved in the regulation of florigen synthesis
 - (A) ethylene
 - (B) zeatin
 - (C) cytokinin
 - (D) gibberellins
- **74.** In which of the following green glands are organs of excretion?
 - (A) Platyhelminths
 - (B) Molluscs
 - (C) Crustaceans
 - (D) Annelids

75. The diagram represents a function of nucleic acid, DNA based on the diagram, what is the most likely nucleotide sequence of the messenger RNA?







ಚಿತ್ತು ಬರಹಕ್ಕಾಗಿ ಸ್ಥಳ Space for Rough Work



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