

Federal Board HSSC-II Examination Biology Model Question Paper (Curriculum 2006 – NBF)

					Version Number			
			SECT	ION –	<u>A</u>			
Time	allow	ed: 25	minutes		Marks: 17			
Note:	Section-A is compulsory. All parts of this section are to be answered on the separately provided OMR Answer Sheet which should be completed in the first 25 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.							
Q.1	Choose the correct answer i.e. A / B / C / D by filling the relevant bubble for each question on the OMR Answer Sheet according to the instructions given there. Each part carries one mark.							
	1.	Breat A. C.	thing center is located in Cerebellum Cerebrum	B. D.	part of the brain. Medulla Spinal cord			
	2.	Anin A. C.	nals which excrete ammonia a Ureotelic Ammoniotelic	as the m B. D.	ajor nitrogenous waste product are called: Uricotelics Urethritis			
	3.	Syph A. C.	ilis is caused by: Proteus vulgaris Klebsiella pneumoniea	B. D.	E. Coli Treponema palladium			
	4.	A. C.	Sciatica Spondylitis	and fus B. D.	ion of vertebral joints. Arthritis Osteoarthritis			
	5.	A pat A. C.	tient with Myxodema would I TSH T4	have ele B. D.	evated level of: ACTH Calcitonin			
	6.	Rece A. C.	ptors which can detect chang Nociceptors Osmoreceptors	es in osı B. D.	molarity of blood are: Mechanoreceptors Photoreceptors			
	7.		message which is transmitted enger is: Synaptic cleft Synaptic delay	across t B. D.	the synapse in the form of chemical Neurotransmitter Synaptic knobs			
	8.	Duch A. C.	nenne patients lack a protein r Action Myoglobin	esponsi B. D.	ble for Duchenne muscular dystrophy. Myosin Dystrophin			

9. Synthesis of a new DNA stand usually begin				ns with a/an:				
	Å.	RNA primer	B.	DNA ligase				
	C.	DNA primer	D.	Okazaki fragment				
10.	The pi	The process by which genetic information flows from genes to proteins is:						
	A.	Translation	B.	Transcription				
	C.	Mutation	D.	Gene expression				
11.	Which of these may be heterozygous?							
	A.	A Haploid cell	B.	An egg				
	C.	An organism with a dominant phenotype						
	D.							
12.	Albinism is recessive gene. A woman with an albino father marries an albino man,							
	the pro	oportion of her progeny is:						
	A.	2 normal: 1 Albino	B.	All normal				
	C.	All albino	D.	1 normal: 1 albino				
13.	The process by which species are replaced over time is:							
	A.	Ecological succession	В.	Climax				
	C.	Population	D.	Trophic level				
14.	An animal that carries a foreign gene that has been deliberately inserted into its genome is:							
	Ă.	Vector	B.	Transgenic animal				
	C.	Cultured animal	D.	Donor				
15.	What is the smallest unit of a DNA molecule that can be altered by a mutation and cause a change to the coding of a polypeptide?							
	A.	Base	В.	Codon				
	C.	Gene	D.	Nucleotide				
16.		equation, NH ₄ -> NO ₃ -> NO ₂ nversion is: Nitrosomonas & Clostridium Azobector & Clostridium Nitrosomonas &Nitrobector Psuedomonas & Clostridium	1	the group of bacteria that have a role in				
17.	Which type of new vaccine production would be most important in the fight to eradicate measles in developing countries? A. a combined vaccine to combat it and other diseases B. a single vaccine, without the need for boosters C. a vaccine containing only live measles pathogens D. a vaccine containing monoclonal antibodies							



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Time allowed: 2:35 hours Total Marks: 68

Note: Sections 'B' 'C' and 'D' comprise pages 1-2 and questions therein are to be answered on the separately provided Answer Book. Use supplementary answer sheet i.e., sheet B if required. Write your answers neatly and legibly.

SECTION – **B** $(7 \times 3 = 21 \text{ Marks})$

(Chapter 14-20)

Note: Please write your answer in no more than FIVE/SIX lines.

- Q.2 Attempt any SEVEN parts from the following. All parts carry equal marks.
 - i. Differentiate between the following:
 - a. Hemoglobin and myoglobin
 - b. Vasodilation and the vasoconstriction
 - c. Ectotherms and Endotherms
 - ii. Draw a liberal diagram of a L.S. of human kidney.
 - iii. Give a brief explanation of various types of bone cells.
 - iv. What are the effects of drug addiction and drug tolerance on the Central Nervous system?
 - v. What is the role of adrenal cortex?
 - vi. How do you explain the orientation behaviour in plants?
 - vii. What is latent learning? Explain briefly with an example.
 - viii. Differentiate between:
 - a. Internal respiration and external respiration
 - b. Osmocorformers and osmoregulators
 - c. Fibrous joints and cartilaginous joints
 - ix. How do the Flexor muscles and extensor muscles work in pairs?
 - x. What are the causes of female infertility?

SECTION – C (7 x 3 = 21)

(Chapter 21-27)

Note: Please write your answer in no more than FIVE/SIX lines.

- Q.3 Attempt any SEVEN parts from the following. All parts carry equal marks.
 - i. What are the various factors that are responsible for aging?
 - ii. What is Roux Weissman hypothesis?
 - iii. DNA sequence TACTAGACGAGACTATCTAGATGCATGCTAACT would result in what mRNA sequence and final polypeptide
 - iv. What is Holandric trait?
 - v. Under what circumstances, is it possible for father and son to sufferr from heamophilia?
 - vi. Show how "a test cross" works using round seed pea of unknown generation?
 - vii. What is Van thypothesis?
 - viii. How can bacteria be used to treat sewage waste?

- ix.
- What is integrated disease management? Show how does "Hardy-Weinberg equation" confirm change in allelic frequency? X.

SECTION – D (Marks 26)

Note:	Attemp	ot any TWO questions. All questions carry equal marks.	$(2 \times 13 = 26)$
Q. 4	a.	Why is anterior pituitary gland considered as the master glassystem? Explain.	and of the endocrine
	b.	Describe the ultra structure of skeletal muscle.	6
Q.5	a.	What is the role of biotechnology in the treatment of various examples.	us diseases? Illustrate with 7
	b.	Explain the mechanism of DNA replication.	6
Q.6	a. b.	Compare and contrast Lamarckism and Darwinism. Describe structure and function of a Nephron.	6 7