

REV-01
MSZ/18/23

2023/06

M.Sc. ZOOLOGY
FOURTH SEMESTER
ANIMAL PHYSIOLOGY & BIOCHEMISTRY-II
MSZ-402 E

SET
B

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 3 hrs.

Full Marks: 70

(Objective)

Time: 30 mins.

Marks: 20

Choose the correct answer from the following:

1 × 20 = 20

- Which one is correct for cDNA?
 - Produced from processed mRNA
 - Do not have introns
 - Created using reverse transcriptase enzyme
 - All of them
- Which part of the plasmid serves as selectable marker?
 - Replication origin
 - Site of insertion of exogenous DNA
 - Antibiotic resistant gene
 - None of them
- Which of these is considered to be a link structure between the nervous system and the endocrine system?
 - Hypothalamus
 - Medulla oblongata
 - Pituitary gland
 - Thyroid gland
- The formation of androstenedione takes place from:
 - DHEA
 - 17 OH-Progesterone
 - Both a and b
 - None of the above
- How does a contraceptive patch prevent pregnancy?
 - It contains spermicide agents
 - It contains hormones that prevent pregnancy
 - It blocks sperm entry
 - All of the above
- The best known acute stress response in animal is:
 - Antigen-antibody reaction
 - Fight or flight reaction
 - Aggressive behaviour
 - None of these
- Select the correct change in lungs observed during ageing.
 - Decrease in curvature of diaphragm
 - Decrease in diameter of airways
 - Progressive loss of elastic recoil in lung tissues
 - All of these
- Which one of the following is injected as a means for emergency treatment of allergy?
 - Epinephrine
 - Corticosterone
 - Leucotrine
 - None of these
- Which one of the following is not a common cause of secondary immune deficiency diseases?
 - Severe burn
 - Dog bites
 - Chemotherapy
 - Radiation

10. Release of lysosomal lytic enzymes from accumulated neutrophils is called:
 - a. Coupled reaction
 - b. Arthus reaction
 - c. Grave's disease
 - d. None of these
11. What should be the pH of higher stacking gel in Western blotting?
 - a. 4.5
 - b. 5.7
 - c. 6.8
 - d. 8.2
12. The compound used in gene cloning technique to make the bacterial membrane permeable is:
 - a. CaCl_2
 - b. Mg_2SO_4
 - c. Na_2CO_3
 - d. KCl
13. N-acetyl-5-methoxy tryptamine that controls daily biological rhythm is known as:
 - a. Melatonin
 - b. Melanopsin
 - c. Melanin
 - d. None of the above
14. Which of this hormone's activated complex move into the nucleus and bind directly to DNA?
 - a. Amine hormone
 - b. Peptide hormone
 - c. Steroid hormone
 - d. All of these
15. What is the primary foetal membrane called?
 - a. Chorion
 - b. Decidua
 - c. Mesoderm
 - d. Trophoblast
16. Which one is not a stage of sleep?
 - a. Transition to sleep
 - b. Sound sleep
 - c. Light sleep
 - d. Deep sleep
17. Stress hormone increases appetite which can lead to:
 - a. Loss of memory
 - b. Stomach pain
 - c. Prone to infection
 - d. Obesity
18. Select the molecule which is not cytokine in nature.
 - a. Lymphokine
 - b. Chemokine
 - c. Interleukine
 - d. Thrombomodulin
19. Myasthenia gravis is an autoimmune disease of:
 - a. Thyroid
 - b. Muscle
 - c. Eyes
 - d. Liver
20. In autoimmunity, certain own body protein of host becomes:
 - a. Epitope
 - b. Paratope
 - c. Syntope
 - d. All of these

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(Descriptive)

Time : 2 hr. 30 mins.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

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| 1. Explain the molecular structure of antibody. Add note on the hybridoma technology in antibody engineering. | 7+3=10 |
| 2. Explain various events related with modification in mRNA after its transcription. | 10 |
| 3. What are the different classes of hormones? Explain the different families of membrane receptors along with examples and proper illustrations. | 3+7=10 |
| 4. How does implantation of the blastocyst in the uterus take place? Describe the anatomy and functions of placenta. | 3+3+4=10 |
| 5. Explain how various hormones of human body respond to environmental stress. | 10 |
| 6. Write about the resistance and tolerance capacity of animals by which they can manage the environmental challenges. | 5+5=10 |
| 7. Answer <i>any two</i> of the following: a) Causes of autoimmunity b) Strategies of tumor/cancer cells against immune response of host cell c) Major enzymes in diagnosis of liver disease | 5+5=10 |
| 8. Write notes on principle and uses of <i>any two</i> of the following: a) Quantitative PCR b) ELISA c) RIA | 5+5=10 |

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