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Reg. No. :

File No. : 10828 E Sub. Code : CAZO 21

(CBCS) DEGREE EXAMINATION, APRIL 2022.

Second Semester

Zoology — Allied

DEVELOPMENTAL ZOOLOGY, ECOLOGY,
ANIMAL PHYSIOLOGY AND EVOLUTION

(For those who joined in July 2021 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

Acrosome is a small cap like pointed structure present at the tip of nucleus of sperm contains a proteolytic enzyme, popularly known as

- (a) phosphatase (b) lipase
(c) hyaluronidase (d) transaminase

The carbohydrate reserve in human body is _____

- (a) Starch (b) Cellulose
(c) Glucose (d) Glycogen

_____ is the procedure to remove waste material and toxic substances and to restore normal volume and composition of body fluid in severe renal failure

- (a) Difussion (b) Dialysis
(c) Dilution (d) Digestion

When estrogen secretion becomes almost zero leads to

- (a) menopause (b) pregnancy
(c) lactation (d) puberty

De Vries proposed a theory is otherwise called

- (a) Mutation theory
(b) Theory of Natural Selection
(c) Theory of Organic evolution
(d) Germplasm theory

2. During fertilization, the process of deposition of sperms in the female genital tract is called _____

- (a) ejaculation (b) insemination
(c) introduction (d) transmission

3. In many animals (e.g. birds) light is necessary for the activation of _____ and in initiating annual breeding activities.

- (a) liver (b) gonads
(c) heart (d) spleen

4. _____ is a kind of harmful co-action (dis-operation) between two species.

- (a) Commensalism (b) Parasitism
(c) Mutualism (d) Amensalism

5. Sucrose on hydrolysis by the enzyme invertase gives _____

- (a) Fructoss + Glucose
(b) Glucose + Glucose
(c) Fructose + Fructose
(d) Galactose + Glucose

Page 2 Code No. : 10828 E

10. Batesian mimicry was first observed by

- (a) Mullar (b) Bates
(c) Clarke (d) Crick

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Describe the basic events of fertilization.

Or

(b) Explain different types of placenta.

12. (a) Describe the role of light as an ecological factor.

Or

(b) Describe the phenomenon of mutualism by providing examples both from plants and animals.

13. (a) Write an account on digestion of carbohydrate.

Or

(b) Specify the steps involved in the process of glycolysis.

14. (a) Elucidate the structure of neuron.

Or

(b) Examine the list of role of hormones in menstrual cycle

15. (a) Critically analyse the five fundamental principles of Darwinism.

Or

(b) Describe the different types of adaptive colouration.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Write an account on test tube baby

Or

(b) Critically examine the types of twins

17. (a) Discuss the role of temperature as an ecological factor.

Or

(b) Describe the structure of an ecosystem by taking an example of pond ecosystem.

Page 5 Code No. : 10828 E

18. (a) Critically analyse the physiology of absorption with illustrations.

Or

(b) Explain the physiological mechanism of transport of O₂ and CO₂

19. (a) Describe different parts of human testis with neat diagram.

Or

(b) Analyze the step involved in the mechanism of urine formation in mammalian kidney.

20. (a) Explain about Huxley De Vries mutation theory.

Or

(b) Explain about adaptive radiation in birds.

Page 6 Code No. : 10828 E