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Register Number:

DATE:

**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27**

**B.Sc., ZOOLOGY – VI SEMESTER**

**SEMESTER EXAMINATION: APRIL 2018**

**ZO 6215 - Developmental Biology and Evolution**

Time-2 ½ hrs Max Marks-70

*This paper contains two printed pages and three parts*

**PART A**

**I. Answer the following questions. Each question carries 1 mark 1X15=15**

1. Epigenetic theory was proposed by \_\_\_\_\_\_\_\_\_\_.

a) Von Baer b) Swammerdam c) Spallanzani d) Casper Fredriech Wolff

2. ‘Ontogeny recapitulates phylogeny’ is the basis of \_\_\_\_\_\_\_\_\_.

a) Biogenetic law b) Epigenetic theory c) Preformation theory d) All of these

3. Discoidal cleavage is seen in \_\_\_\_\_\_\_\_\_\_.

a) Amphioxus b) Frog c) Chick d) Both A & B

4. The chemical substance released by an inductor for embryonic induction is \_\_\_\_\_\_\_\_\_\_.

a) Organizer b) Evocator c) Responder d) All of these

5. A major part of the evolution of horse happened in \_\_\_\_\_\_\_\_\_\_\_ continent.

a) North America b) Africa c) Europe d) Australia

6. Present continents formed approximately \_\_\_\_\_\_\_\_\_\_ million years ago.

a) 200 b) 100 c) 300 d) 350

7. Fossilized intestinal content is \_\_\_\_\_\_\_\_

a) Tracks b) Trails c) Coprolites d) Altered fossil

8. Reappearance of ancestral characters in the present generation is called \_\_\_\_\_\_\_\_\_

a) Genetic drift b) Atavism c) Pedogenesis d) Retrogressive metamorphosis

9. In ancestral prawn, thoracic appendages were used for \_\_\_\_\_\_\_\_\_\_\_

a) Feeding b) Respiration c) Defense d) Locomotion

10. Vestigial pelvic girdle is found in \_\_\_\_\_\_\_\_\_\_\_.

a) Python b) Tortoise c) Sphenedon d) Crocodile

11. Ancestral horse is known as \_\_\_\_\_\_\_\_\_\_.

a) Dawn horse b) Eohippus c) Hyracotherium d) All of these

12. Ramapithecus is also known as \_\_\_\_\_\_\_\_\_\_\_.

a) Propliopithecus b) Cro-magnon man c) Australopithecus d) Kenyapithecus

13. The cotyledons fits into depressions called \_\_\_\_\_\_\_\_\_ in cotyledonary placenta.

a) Crypts b) Caruncles c) Villi d) All of these

14. Allantois is developed from \_\_\_\_\_\_\_\_\_\_\_ of the embryo.

a) Foregut b) Midgut c) Hindgut d) None of these

15. \_\_\_\_\_\_\_\_\_\_\_ hormone suppresses the contractility of uterine smooth muscles.

a) Estrogen b) Progesterone c) Relaxin d) ACTH

**PART B**

**II. Answer any five questions. Each one carries 5 marks 5X5=25**

16. Classify eggs based on the amount of yolk present. Give suitable examples

17. With the help of a diagram, describe the structure of cleidoic egg.

18. Differentiate between cleavage patterns in frog and chick.

19. Explain the structure and functions of amnion.

20. Write short notes on Cro-magnon man.

21. Mention the periods of Mesozoic era with the animal groups.

22. Comment on Neo Darwinism.

**PART C**

**III. Answer any three questions. Each question carries 10 marks 3X10=30**

23. With the help of Spemann and Mangold experiment, explain the significance of dorsal lip of blastopore in amphibian development.

24. Explain the various stages of menstrual cycle. Add a note on its hormonal control.

25. Give a detailed account of morphogenetic movements involved in gastrulation of frog.

26. Describe the various types of pre-zygotic isolating mechanisms.

27. What are the embryological evidences in favor of evolution.