KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

DEPARTMENT OF THEORETICAL AND APPLIED BIOLOGY

Biol. 352 Chordate Development and Evolution

B.Sc. III (Biological Science)

2½ HOURS

APRIL 2012

INSTRUCTION: Answer any 3 questions in the answer booklet provided. Candidates are expected to provide precise answers to the questions. Credit will be given for orderly presentation of answers. All questions carry equal marks.

1. a) Give a brief account of the structure of each of the following:
   i) Armour ii) Elasmoid scale iii) Dermal denticles iv) Hoof
   b) Account for the structure of the skin of lizards
   c) What are the functions of feathers? Describe how the feather is developed in a bird.
2. Give a detailed account of the components and development of the head skeleton of Vertebrates.
3. a) With the aid of a drawing describe the structure of the diencephalon of the vertebrate brain .
   b) What are the various changes which took place in the vertebrate heart during the transition from single to double circulation?
   c) Distinguish between the Artiodactyla and Perissodactyla. Give one example of each.
4. a) Without the use of a diagram, account for the structure of the spinal cord of an Amniote as seen in transverse section.
   b) Give an account of the structure of the upper limb of a Tetrapod.

P. K. Baidoo

KWAME NKRUMAH UNIVERSITY OF SCIENCE & TECHNOLOGY, KUMASI

COLLEGE OF SCIENCE

B. Sc. (Biological Sciences) Second Semester, Mid - Semester Examinations, 2017/2018

THIRD YEAR

BIOL 352 CHORDATE DEVELOPMENT AND EVOLUTION 2

MARCH, 2018 1 HOUR

INDEX NUMBER 4528915

9. Figure 1 is a 4mm frog embryo. Name the parts indicated A to U

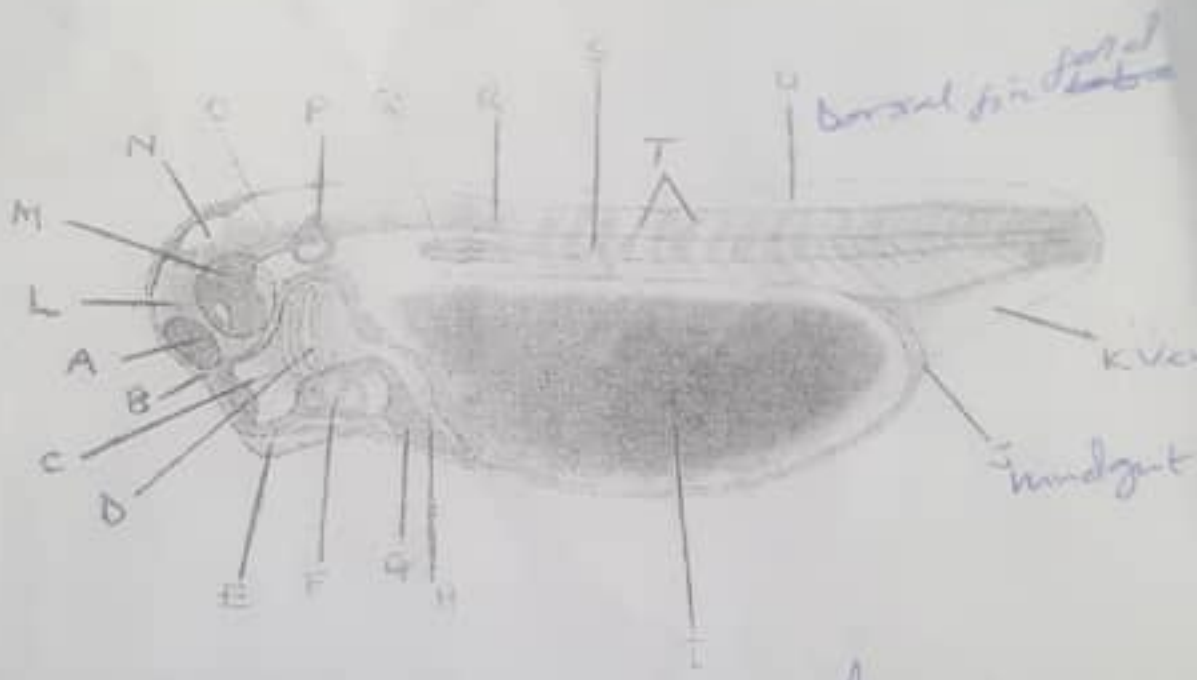

Figure 1. 4mm Frog embryo

(10 marks)

U – Dorsal fin fold
A – Mouth rudiment
B – Mouth portion
C – pharyngeal cavity
D – pharyngeal pouches
E – Adhesive organ
F – Heart
G – Liver rudiment
H – ~~Liver~~ Hepatic diverticulum
I – Yolky endoderm
J – Hindgut
K – Ventral fin fold
L – Forebrain (prosencephalon)

S. Akyeampong