

HIGHER SECONDARY MODEL EXAMINATION
MARCH – 2010
ZOOLOGY

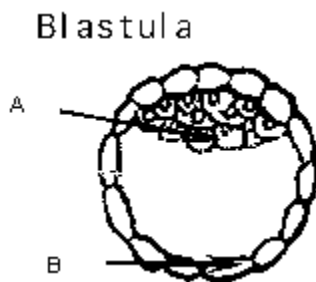
HSE II

Time: 1hr
Max score : 30

General Instructions

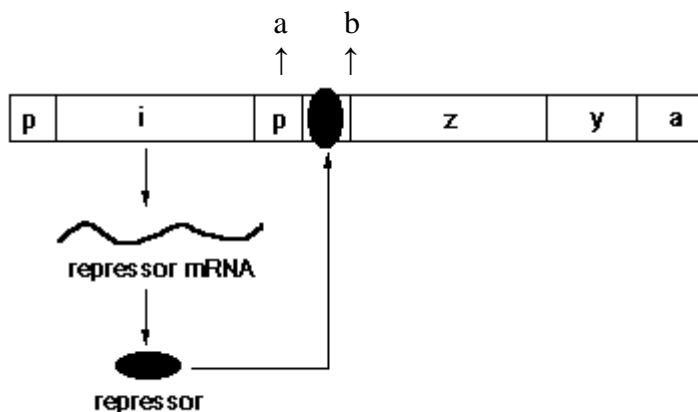
- *First 7½ minutes is cool off time*
- *Read the questions carefully before answering*
- *Answer all questions*

1. Fill up the blanks with appropriate words
 - a) Lactobacillus: Curd :: _____ : Biogas
 - b) Darwin: Theory of Natural Selection :: Lamarck : _____ (½ x 2=1)
2. Colostrum is essential for new born babies. Give reason. (1)
3. Give two applications of DNA fingerprinting. (1)
4. Mention any two methods to avoid STDs (1)
5. The diagram of human blastula is given below



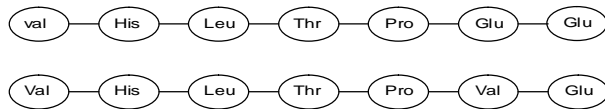
- a) Identify A and B. (1)
 - b) Mention the fate of A. (1)
6. $p^2 + 2pq + q^2 = 1$ is an equation showing a principle on evolution
 - a) Name the principle. (½)
 - b) Name the factors affecting this principle. (1)
 7. What is MTP? Mention your opinion on whether it is useful or harmful. (2)

8. In a crossing experiment using 4O'clock plants with red and white flowers, in the F1 generation Raju got the ratio 1 red :2 pink:1 white. Is it similar to Mendelian inheritance ratio? Justify your answer. (2)
9. On a mission to keep campus free from alcohol/drug abuse, you were asked to prepare a pamphlet. Prepare one to make pupils aware of the harmful effects of alcohol/drug abuse. (2)
10. Biofertilizers are better than chemical fertilizers. Do you agree with the statement? Justify your answer with suitable examples. (1½)
11. Industrial melanism is a good example for Natural selection. Substantiate your answer with a suitable example (2)
12. a) Name the lymphocytes responsible for the immune responses of our body. (1)
 b) Differentiate the mode of response produced by them (1)
13. S strain → inject into mice → mice die
 R strain → inject into mice → mice live
 S strain
 (heat killed) → inject into mice → mice live
 S strain
 (heat killed)
 + → inject into mice → mice die
 R strain
 a) Identify the experiment shown by the above steps. (1)
 b) What was the purpose of the experiment (1)
- 14.



- a) Identify the process shown by the above picture (1)
 b) Label the parts marked A and B (1)
 c) What happens if lactose is added to it? (1)

15.



Aminoacid composition of a portion of β chain of haemoglobin of two
Individuals are shown above

- a) Which one is from a normal individual (1/2)
- b) Name the disease caused in the abnormal condition of this chain (1/2)
- c) Mention the cause and effect of the change in aminoacid sequence leading to the disease. (2)

16. “ The biological wealth of our planet has been declining rapidly and the
accusing finger is clearly pointing to human activities.”

- a) Mention any two human activities leading to the loss of biodiversity (1)
- b) Mention the different ways to conserve biodiversity. (2)
