



# BIOLOGY

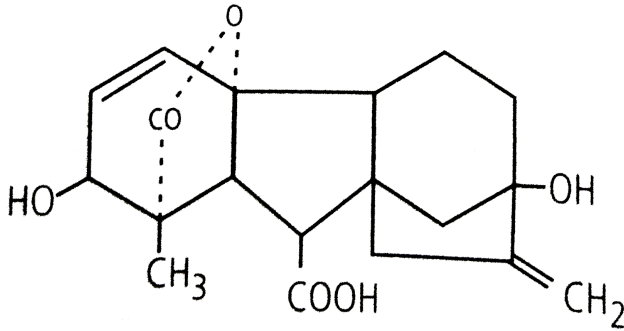
## BOOKS - KVPY PREVIOUS YEAR

### MOCK TEST 10

#### Exercise

1. Select the correct option regarding the phytohormone to which the given molecular

structure belongs.



A. The hormone promotes femaleness in most flowers.

B. The hormone promotes apical dominance.

C. The hormone usually decreases the size of stem, leaves, flowers and fruits.

D. The hormones breaks seed dormancy by synthesis of certain enzymes.

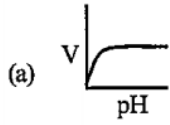
**Answer:**



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2. Which one of the given graph shows the effect of pH on the velocity of a typical enzymatic reaction (V)?

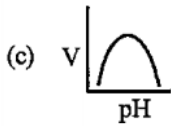
A.



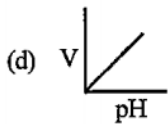
B.



C.



D.



**Answer:**



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3. Which of the following types of mammalian cell does not carry out oxidative phosphorylation?

A. Cardiac muscle cells

B. Erythrocytes

C. Neurons

D. Oxyntic cells

**Answer:**



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4. Blood group AB has

A. No antigen

B. No antibody

C. Neither antigen nor antibody

D. Both antigen and antibody

**Answer:**



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5. One child is haemophilic (sex-linked trait), while its fraternal twin's brother is normal. Which one of the following informations is most appropriate?

- A. The mother must have been heterozygous.
- B. The child is a monozygotic twin.
- C. The other child is a female and the father is haemophiliac.

D. The haemophiliac child is a male.

**Answer:**



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6. One microelectrode is inserted into a healthy neuron and another is placed outside the cell. If the neuron is then hyperpolarised by a chemical stimulus, what will happen to the membrane potential recorded by the electrodes?



A. It will become more positive.

B. It will become more negative.

C. It will first become more positive, then  
return to normal.

D. It will not change.

**Answer:**



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7. A pasture of 40 hectares has a biomass of 40kg hectare, or roughly 1,000,000 calories of energy. Cattle grazing on this pasture are sold for beef. About how many calories of energy from the pasture reach human consumers of the beef?

A. 10, 000

B. 1000

C. 100, 000

D. 1, 000, 000

**Answer:**



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8. Jet lag occurs when a person moves rapidly from one time zone to another, causing conflict between the body's biological rhythm and the new cycle of light and dark. Some scientists suspect that jet lag may result from disruption of a daily hormone cycle. Which of the following hormones do you think is the most likely suspect?

A. Epinephrine

B. Insulin

C. Melatonin

D. Oestrogen

**Answer:**



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**9.** Choose the sequence in which the following enzymes take part in DNA replication. (i)

Helicase (ii) Primase (iii) SSB (iv) DNA  
polymerase (v) DNA ligase

A. (i)  $\rightarrow$  (v)  $\rightarrow$  (iv)  $\rightarrow$  (iii)  $\rightarrow$  (ii)

B. (i)  $\rightarrow$  (ii)  $\rightarrow$  (iii)  $\rightarrow$  (iv)  $\rightarrow$  (v)

C. (i)  $\rightarrow$  (iii)  $\rightarrow$  (ii)  $\rightarrow$  (iv)  $\rightarrow$  (v)

D. (i)  $\rightarrow$  (iv)  $\rightarrow$  (iii)  $\rightarrow$  (ii)  $\rightarrow$  (v)

**Answer:**



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10. The colonies of recombinant bacteria appear white in contrast to blue colonies of non-recombinant bacteria because of

A. Insertional inactivation of alpha-galactosidase in non-recombinant bacteria

B. Insertional inactivation of alpha-galactosidase in recombinant bacteria

C. Inactivation of glycosidase enzyme in recombinant bacteria

D. Non-recombinant bacteria containing  
beta-galactosidase

**Answer:**



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**11.** The painful skin condition known as shingles is associated with:

A. Polio

B. Rabies

C. Influenza

D. Chicken pox

**Answer:**



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**12.** In humans, albinism is controlled by a recessive allele. How many copies of this allele will be found at one of the poles of a cell at telophase I of meiosis in an albino person?



A. 4

B. 2

C. 1

D. 0

**Answer:**



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**13.** When an angiospermic plant of chromosomal type 'aa' pollinates another angiospermic plant of type 'AA', what

chromosome constitution of embryo and endosperm is expected in the resulting seeds?

- A. Zygote-Type  $Aa$  and Endosperm-type  $AAa$
- B. Zygote-Type  $aa$  and Endosperm-type  $Aaa$
- C. Zygote-Type  $AA$  and Endosperm-type  $AAa$
- D. Zygote-Type  $Aa$  and Endosperm-type  $aaa$

**Answer:**



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