



BIOLOGY

BOOKS - TRUEMAN BIOLOGY

Applications of Biology

Assertion And Reason

1. [A]: Maximum genetic diversity of crop plants is found in areas where agriculture is primitive.

[R]: In such primitive areas, human interference is minimum and maximum flora and fauna survive

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A





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2. [A]: Enzyme papain splits antibody molecule into two fab (fab = fragment anti- gen binding fragments) each with antigen binding site.

[R]: The products formed by interaction of antibody-antigen depend on number of antigenic determinants present on antibody.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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3. (A): Rabies is an acute infectious disease of mammals affecting CNS to cause paralysis and death.

[R]: This is caused due to neurotropic filterable bacteria in saliva of rabid animals.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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4. [A]: Phagocyte cells digest microbes.

[R]: Killer cells destroy virus infected cells and tumor cells.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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5. [A]: A person may suffer from malaria even when his blood smear shows absence of plasmodium.

[R]: The malaria germs moved away from blood into the lymph

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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6. [A]: It is advantageous to give the polio vaccine orally.

[R]: It prevents reinfection by causing intestinal immunity

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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7. [A]: Disorders like scrapie in sheeps and goats are caused by Prions.

[R]: The build up of prion occurs in the brain causing neuro degenerative disorders.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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8. [A]: Lymphocytes develop in lymphoid tissue and involved in cell mediated and humeral immunity.

[R]: Lymphocytes are produced in primary lymphoid tissue (thymus, embryonic liver and

adult bone marrow) and migrate to secondary lymphoid tissue (spleen and lymphnodes)

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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9. [A]: Male anopheles does not spread malaria.

[R]: It does not carry plasmodium

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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10. [A]: In alcoholic drink the alcohol is converted into glucose in liver.

[R]: Liver cells are able to produce glucose from alcohol.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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11. (A): The neem is used as a natural insecticide.

[R]: The extract of neem contains Azadirachtin which acts as an antifeedant compound.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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12. Assertion : There is no chance of transmission of malaria to a man on the bite of a male anopheles mosquito.

Reason : It carries a non virulent strain of plasmodium.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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13. [A]: Treatment of malaria by vaccination is rare

[R]: Plasmodium does not produce antibodies in human blood.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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14. [A]: B-cells are responsible for antibody mediated immunity which directly recognize an antigen and give rise to antibody secreting plasma cells and memory b-cells.

[R]: Immunity can be induced by using vaccines for long- lived active period.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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15. [A]: Immunoglobulins or antibodies are specialized proteins synthesized by the lymphocytes of vertebrates.

[R]: These defend against invasion of bacteria, viruses and foreign proteins.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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16. [A]: Indiscriminate exploitation of economically important wild plants may lead to their extinction.

[R]: Conservation of the germplasm is responsible for extinction of the species

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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17. (A): Cotton is a filling fibre only.

[R]: Cotton is a bast fibre

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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18. [A]: Bhojpatra is derived from bark of Betula.

[R]: Eucalyptus belongs to family Myrtaceae.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer: B



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19. [A]: Clove is a flower bud.

[R]: Essential oils are known as volatile oils.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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20. [A]: Black wood is obtained from Dalbergia.

[R]: Coffee is mainly produced in Kanataka in India

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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21. [A]: Cocaine is an alkaloid derived from the shrub *Cannabis sativa*.

[R]: Cocaine is a derived form of LSD.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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22. [A]: Winged bean is widely cultivated throughout India.

[R]: The protein content in the seeds of winged bean is low

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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23. [A] : The age-sex structure of human population in countries like France and Germany gives a steep pyramid .

[R] : In countries like Sudan and India the population is increasing at a rapid rate .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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24. [A]: Decrease in mortality would result in decreased population growth rate.

[R]: Mortality is the birth rate per thousand individuals

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer: D



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25. Assertion. Death is regarded as the most regulatory process on earth.

Reason. It avoids over-crowding caused by continuous reproduction

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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26. [A]: The ideas of Thomas Malthus are more applicable today.

[R]: Malthus told that man's ability to master the environment is limitless.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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27. [A]: Since 1960 s, there is a dramatic increase in human population growth rate.

[R]: Infant and child mortality rate has been reduced

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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28. [A]: Oral contraceptive pills are meant for family planning purpose.

[R]: Oral contraceptive pills inhibit fertilization

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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29. [A]: Environment resistance does not limit population growth.

[R]: Environment resistance decreases as a population approaches the environment's carrying capacity

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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30. [A]: Growth curve is the graphic representation of the total growth against time.

[R]: Population growth curves are of two types-J shaped and S shaped

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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31. [A]: Demography is the study of human population growth

[R]: Demographic cycle possess three stages through which nation passes.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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32. Assertion : Interferons are a type of antibodies produced by body cells infected by bacteria.

Reason : Interferons stimulate inflammation at the site of injury.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer: D



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33. Assertion (A): Organ transplantation patients are given immunosuppressive drugs.

Reason (R): Transplanted tissue has antigens which stimulate the specific immune response of the recipient.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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34. Assertion : Persons suffering from haemophilia fail to produce blood clotting factor . VIII.

Reason : Prothrombin producing platelets in such persons are found in very low concentration

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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35. [A] : Senescence in the time when age associated defects are manifested.

[R]: Certain genes may be undergoing sequential switching on & off during one's life.

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: A



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36. Assertion: In recombinant DNA technology, human genes are often transferred into bacteria (prokaryotes) or yeast (eukaryote)

Reason : Both bacteria and yeast multiply very fast to form huge population, which express the desired gene

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer: A



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37. Assertion : *Agrobacterium tumefaciens* is popular in genetic engineering because this bacterium is associated with the roots of all cereal and pulse crops.

Reason : A gene incorporated in the bacterial chromosomal genome gets automatically transferred to the crop with which the bacterium is associated .

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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38. [A]: Typhoid carriers may be cured by removing their spleen.

[R]: Typhoid bacteria remain concentrated in it

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: D



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39. [A]: Hand ,Foot and mouth disease causes ulceration in mouth and feets.

[R]:Hand Foot and mouth disease is highly contagious

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: B



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40. [A] : A blood dialyser is an artificial kidney which can sustain kidney functions.

[R]: It is an exact copy of natural kidney

A. If both A and R are true and R is the correct explanation of A

B. If both A and R are true but R is not the correct explanation of A

C. If A is true and R is false

D. If both A and R are false

Answer: C



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41. Assertion. Somaclonal variations occur in tissue culture processes.

Reason. Variations cannot occur in nature.

- A. If both A and R are true and R is the correct explanation of A
- B. If both A and R are true but R is not the correct explanation of A
- C. If A is true and R is false
- D. If both A and R are false

Answer: C



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