BIOLOGY

1) DNA polymerase which is used in PCR is isolated from which of the following bacteria?

(A) Bacillus thuringiensis

(B) Escherichia coli

(C) Thermus aquaticus

(D) Agrobacterium tumifaciens

2) ELISA system based on which of the following principle?

(A) Antigen - Antibody interaction

(B) Polymerase Chain Reaction

(C) Autoradiography

(D) Enzyme replacement therapy

3) For which disease the $\alpha - 1$ antitrypsin is used?

(A) Sickle - cell anaemia

(B) Emphysema

(C) AIDS

(D) Thalassemia

4) In which system the specific mRNA becomes silent after complementary to dsRNA molecule?

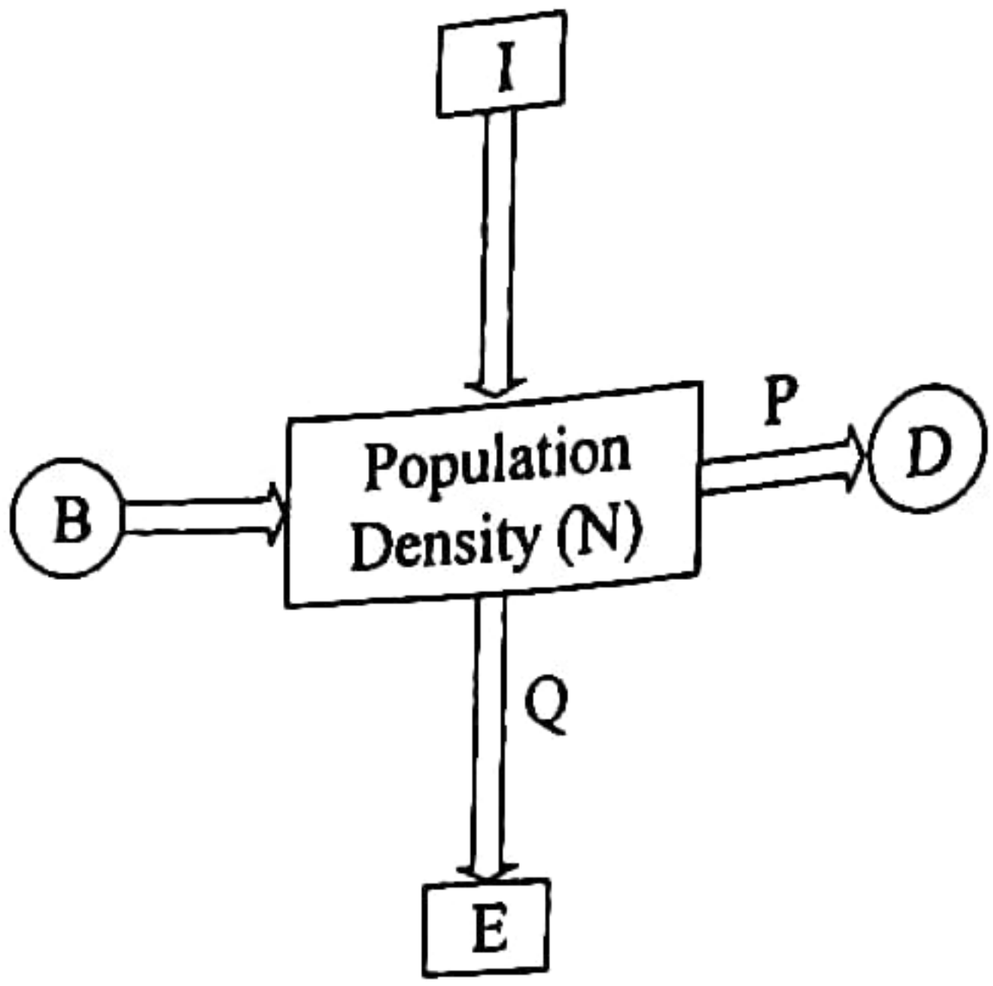
(A) ELISA

(B) PCR

(C) RNAi

(D) DNAi

5) Choose the correct option for P and Q in the given diagram :



	P	Q
(A)	+	+
(B)	+	–
(C)	–	–
(D)	–	+

6) For verhulst - Pearl Logistic Growth $dN/dt = rN\left(\frac{K-N}{K}\right)$ what is K indicate for that equation?

(A) Carrying capacity

(B) Intrinsic rate of natural increase

(C) Population density

(D) Probability constant

(Space for Rough Work)

7) The pyramid of biomass in _____ are generally inverted.

(A) Grassland

(B) Dense forest

(C) Sea

(D) Grassland and Dense forest both

8) Which of the following is responsible for beginning of detritus food chain?

(A) Algae

(B) Zooplankton

(C) Phytoplankton

(D) Fungi

9) In 2002 in _____ the world Summit on Sustainable Development held.

(A) Germany

(B) Rio de Janeiro

(C) Johannesburg

(D) Canada

10) Choose the incorrect pair of extincted animal and their country from the following.

(A) Dodo – Mauritius

(B) Steller's Sea Cow – Russia

(C) Quagga – Africa

(D) Thylacine – Thailand

11) Which naturalist gave species area relationship?

(A) David Tilman

(B) Edward Wilson

(C) Alexander Von Humboldt

(D) Paul Ehrlich

(Space for Rough Work)

12) Which type of interaction is seen in between sea anemone ...

(A) Predation

(B) Mutualism

(C) Parasitism

(D) Commensalism

13) The ovule attached to the placenta by -

(A) Hilum

(B) Chalaza

(C) Funicle

(D) Micropyle

14) In Cleistogamous Flowers -

(A) Anthers are exposed

(B) Anthers and stigma are closed

(C) Stigma is exposed

(D) Flowers are exposed

15) Which one of the following is not associated with pollen - pistil interaction?

(A) Pollen deposition on the stigma

(B) Pollen tube enters the ovule

(C) Pollen germination

(D) Embryo development

(Space for Rough Work)

16) Where are the Leydig cell present?

(A) In the wall of seminiferous tubules

(B) In Epididymis

(C) The region outside the seminiferous tubules

(D) In Rete testis

17) Which one of the following is release by the Graafian follicle at the time of ovulation?

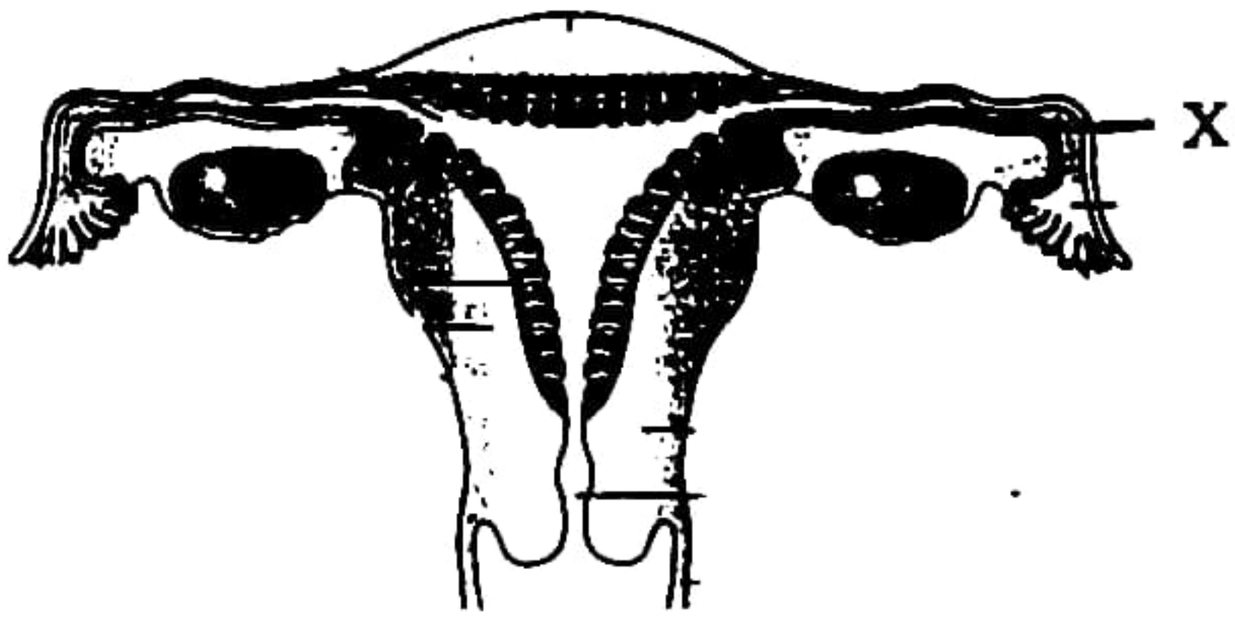
(A) Primary Oocyte

(B) Ovum

(C) First polar body

(D) Secondary Oocyte

18) What 'X' shows in the given diagram?



(A) Ampulla

(B) Isthmus

(C) Infundibulum

(D) Fimbriae

19) The hormone releasing Intra Uterine Device is _____.

(A) Lippes loop

(B) Cu T

(C) Multiload 375

(D) LNG - 20

20) Which one of the following sexually transmitted infection is transmitted by other method too other than sexual intercourse?

(A) Gonorrhoea

(B) Chlamydiasis

(C) Syphilis

(D) Hepatitis - B

21) In *in vitro* fertilisation if embryo with more than 8 blastomeres is transferred into the uterus for development, then what is called for this method?

(A) ZIFT

(B) Artificial insemination

(C) GIFT

(D) IUT

22) If the blood group of mother is 'A' and the blood group of father is 'O', what may be the blood group of progeny?

(A) A, AB, B, O

(B) A or B

(C) A or O

(D) Only blood group A

(Space for Rough Work)

23) Match the following and choose the correct option

Column - I		Column - II	
(p)	Mendal	(i)	Chromosomal theory of Inheritance
(q)	Morgan	(ii)	Recombination map
(r)	Alfred Sturtevant	(iii)	Linkage
(s)	Sutton	(iv)	Law of Segregation

(A) (p - iv), (q - iii), (r - ii), (s - i)

(B) (p - iii), (q - i), (r - iv), (s - ii)

(C) (p - ii), (q - iii), (r - iv), (s - i)

(D) (p - iv), (q - iii), (r - i), (s - ii)

24) On which chromosome of each parent gene controlling β-thalassemia is located?

(A) 11^{th}

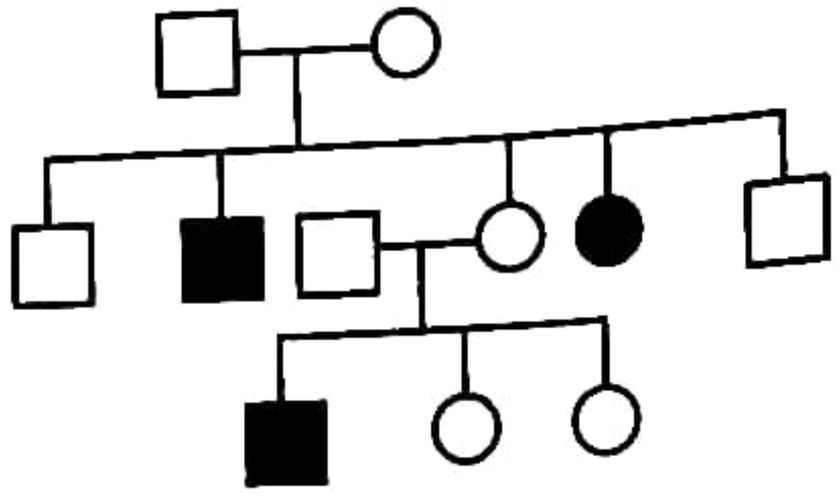
(B) 21^{st}

(C) 16^{th}

(D) 14^{th}

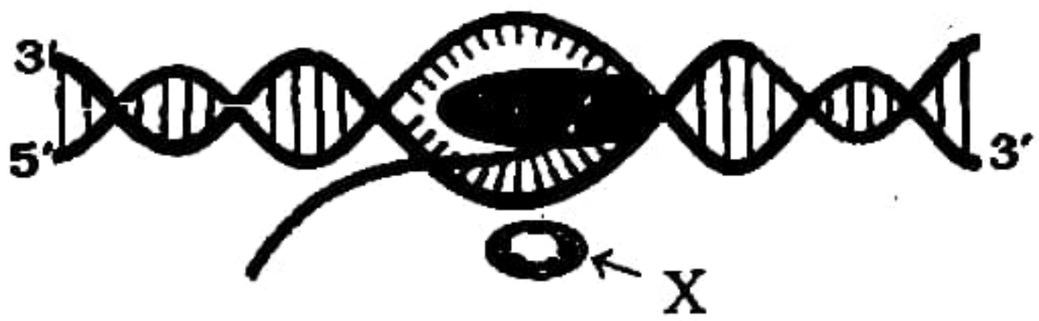
(Space for Rough Work)

25) Which autosome linked disease is related to the following pedigree analysis?



(A) Myotonic dystrophy
(B) Sickle - cell anaemia
(C) Haemophilia
(D) Colour Blindness

26) What is 'X' represent in the following diagram?



(A) RNA polymerase
(B) Rho factor
(C) Sigma factor
(D) DNA polymerase

27) "Embryo never pass through the adult stage of other animals" who gave this statement?

(A) Ernst Heckel
(B) Oparin
(C) Lamarck
(D) Karl Ernst Von Baer

(Space for Rough Work)

28) Which one of the following is the example of analogy?

(A) Sweet potato and Radish

(B) Sweet potato and potato

(C) Potato and Ginger

(D) Ginger and turmeric

29) Which of the following is not affect Hardy - Weinberg equilibrium?

(A) Gene migration

(B) Mutation

(C) Genetic drift

(D) Adaptive radiation

30) How many amino acids are present in the polypeptide which is synthesised from the translation of following m-RNA?

5'–UUUUCUAUGCUGGUGGCUUGAUUUUCCCCU–3'

(A) 4

(B) 8

(C) 10

(D) 7

31) How many types of anticodons are present in a cell?

(A) 4

(B) 61

(C) 3

(D) 64

32) If a double stranded DNA has 30% adenine, so what is the percent of cytosine at the same DNA?

(A) 30%
(B) 20%
(C) 40%
(D) 70%

33) On the basis of which of the following symptoms that Doctor tell 'X' patient is suffering from pneumonia?

(A) Has chill and high fever recurring every 3 to 4 days
(B) Has lips and finger nail turn grey to bluish in colour
(C) Has sustained high fever (39°C to 40°C), weakness stomach pain, constipation
(D) Has skin, nail and scalp having scaly lesions

34) Which one of the following group associated with secondary lymphoid organs

(A) Thymus, spleen, lymph node
(B) Appendix, tonsils, peyer's patches of small intestine
(C) Bone marrow, appendix, tonsils
(D) Bone marrow, thymus, spleen

35) Cirrhosis -

(A) is a liver's disease caused by heavy drinking of alcohol
(B) is a disease spread by using needle and syringe from one person to other
(C) is a Kidney's disease caused by heavy consumption of drug
(D) is a brain's disease caused by heavy consumption of narcotic analgesics

(Space for Rough Work)

36) Match the Column - I and Column - II by suitable manner.

Column - I		Column - II	
(p)	Pectinase	(i)	Removing clots from the blood vessels of patients
(q)	Statins	(ii)	Clarified fruit Juices pack in bottle
(r)	Cyclosporin - A	(iii)	Immunosuppressive agent in organ transplant
(s)	Streptokinase	(iv)	Blood cholesterol lowering agent

(A) (p - ii), (q - iv), (r - i), (s - iii)

(B) (p - i), (q - iii), (r - ii), (s - iv)

(C) (p - iv), (q - ii), (r - iii), (s - i)

(D) (p - ii), (q - iv), (r - iii), (s - i)

37) Which one of the following statement is correct :

(i) Baculoviruses are excellent candidates for species specific narrow spectrum insecticidal applications

(ii) Bacillus thuringiensis is used to control butterfly caterpillars

(iii) Ladybird is useful to get rid of mosquitoes

(iv) Trichoderma fungus are used as a biocontrol agents for animal pathogen

(A) only (i), (iii) and (iv)

(B) only (i) and (ii)

(C) only (ii) and (iv)

(D) only (iii) and (iv)

(Space for Rough Work)

38) Which of the following statement is correct?

(A) Azospirillum and Azotobacter live as symbiosis, they fix atmospheric nitrogen and thus enriching the nitrogen content of the soil.

(B) Many members of the genus monascus form mycorrhiza

(C) Heterotrophic cyanobacteria are used as a biofertilisers in a paddy fields.

(D) Many members of the genus Glomus form mycorrhiza

39) Identify palindromic nucleotide chain -

(A) 5' _____ GAATTC _____ 3'
5' _____ CTTAAG _____ 3'

(B) 5' _____ CTTAAG _____ 3'
3' _____ CTTAAG _____ 5'

(C) 5' _____ GAATTC _____ 3'
3' _____ TTCGAA _____ 5'

(D) 5' _____ GAATTC _____ 3'
3' _____ CTTAAG _____ 5'

40) In gel electrophoresis technique -

(A) DNA fragments can visualised in visible light without staining.

(B) The natural polymer is used as a matrix which is extracted from see weeds.

(C) Bright blue coloured bands of DNA in a ethidium bromide stained gel exposed to visible light.

(D) The larger the DNA fragment size the further it move in agarose matrix.

(Space for Rough Work)