

1) Alexander Fleming was the first person to discover 'Penicillin' by chance. worked on which bacterium?

- A) Haemophilus Influenzae
- B) Staphylococci
- C) Streptococcus Pneumoniae
- D) Salmonella Typhi

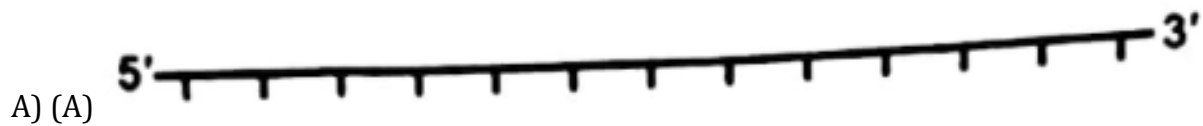
2) Match the following. Choose the correct option.

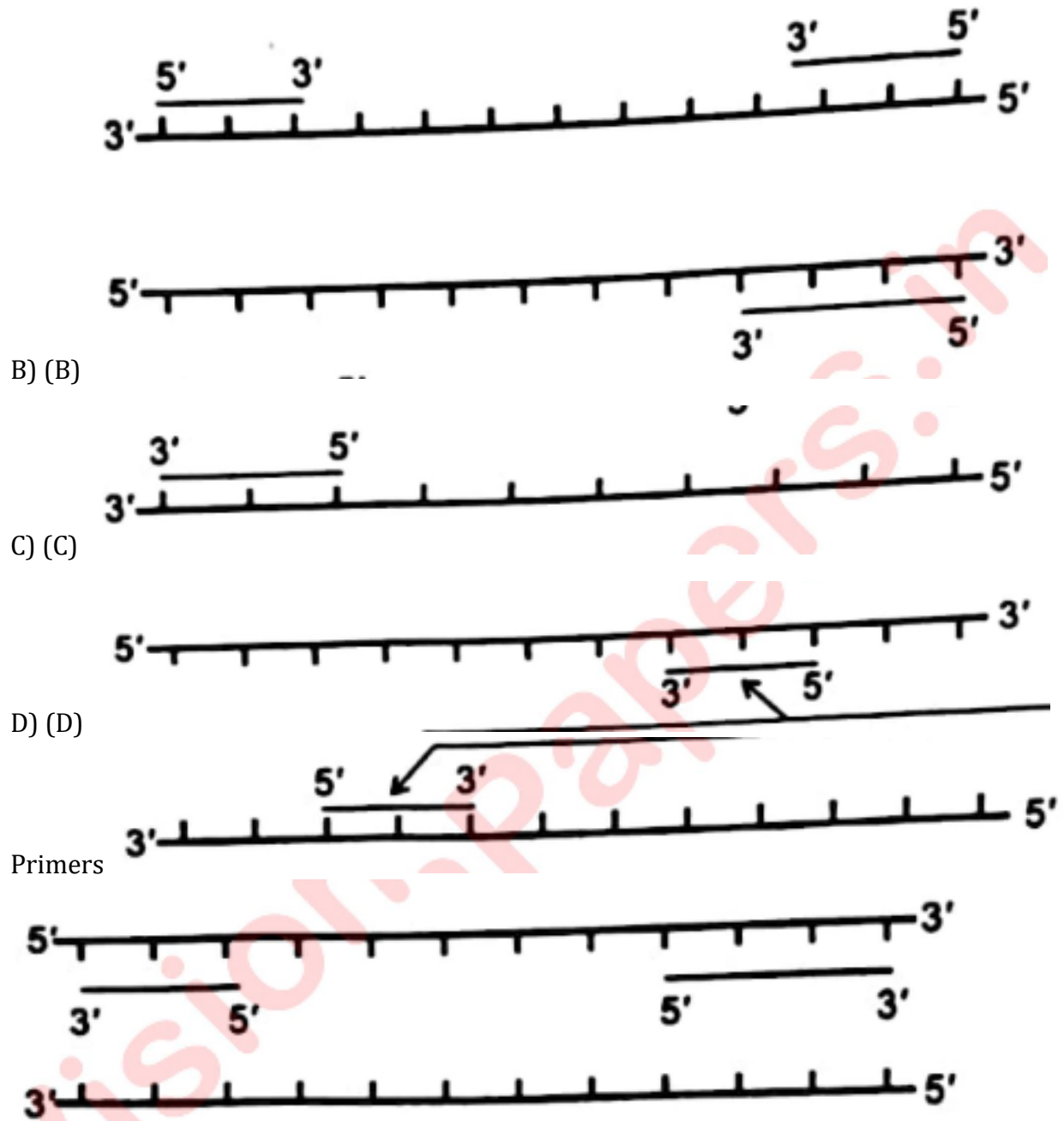
Match the following. Choose the correct option.

	Column - I		Column - II
(i)	Propionibacterium Shermanii	(P)	Fermenting fruit juices to produce ethanol
(ii)	Saccharomyces Cerevisiae	(Q)	Citric Acid
(iii)	Aspergillus niger	(R)	'Swiss Cheese'
(iv)	Trichoderma polysporum	(S)	Immuno-suppressive

- A) (i - R); (ii - Q); (iii - P); (iv - S)
- B) (i - P); (ii - S); (iii - R); (iv - Q)
- C) (i - P); (ii - Q); (iii - R); (iv - S)
- D) (i - R); (ii - P); (iii - Q); (iv - S)

3) Choose the correct option for the 'Annealing' step in P.C.R. from the following diagrammatic representations:





4) In extraction of genetic material (DNA), which enzyme is not used?

- A) Ribonuclease
- B) Cellulose
- C) Protease
- D) Both Protease and Ribonuclease

5) In E.Coli cloning vector pBR322, antibiotic resistance genes (amp<sup>r</sup>) indicates which restriction sites?

- A) PvuI, PstI
- B) PvuII, EcoRI
- C) BamHI, Sall
- D) EcoRI, HindIII

6) Proteins encoded by the genes and , which control the cotton bollworms.

- A) Cry I Ab and Cry I Ac.
- B) Cry I Ab and Cry II Ac.
- C) Cry I Ac and Cry II Ab.
- D) Cry II Ab and Cry II Ac.

7) Choose the correct option from the statements given below which do not support the reasons for production of transgenic animals :

- A) to test the safety of the polio vaccine
- B) for production of  $\alpha - 1$  antitrypsin used to treat emphysema
- C) for diagnosing genetic disorder
- D) to test the toxicity of drugs

8) Choose the correct option showing population interactions

- A) Sea-anemone and clown fish → Predation
- B) Monarch butterfly and bird → Competition
- C) Egret and grazing cattle → Parasitism
- D) Fig and wasp → Mutualism

9) and are the two basic processes which contribute to an increase in population density.

- A) Natality and Immigration
- B) Mortality and Immigration
- C) Mortality and Emigration
- D) Natality and Emigration

10) A few organisms can tolerate and thrive in a wide range at temperatures. They are known as :

- A) Eurythermal
- B) Stenohaline
- C) Stenothermal
- D) Euryhaline

11) In a particular condition, decomposition rate is slower if detritus is rich in and

- A) nitrogen and sugar
- B) lignin and chitin
- C) lignin and nitrogen
- D) chitin and sugar

12) In which trophic level, you will keep the species 'Sparrow'?

- A) Only Primary Consumer
- B) Only Secondary Consumer
- C) Both Primary and Secondary Consumer
- D) Both Secondary and Tertiary Consumer

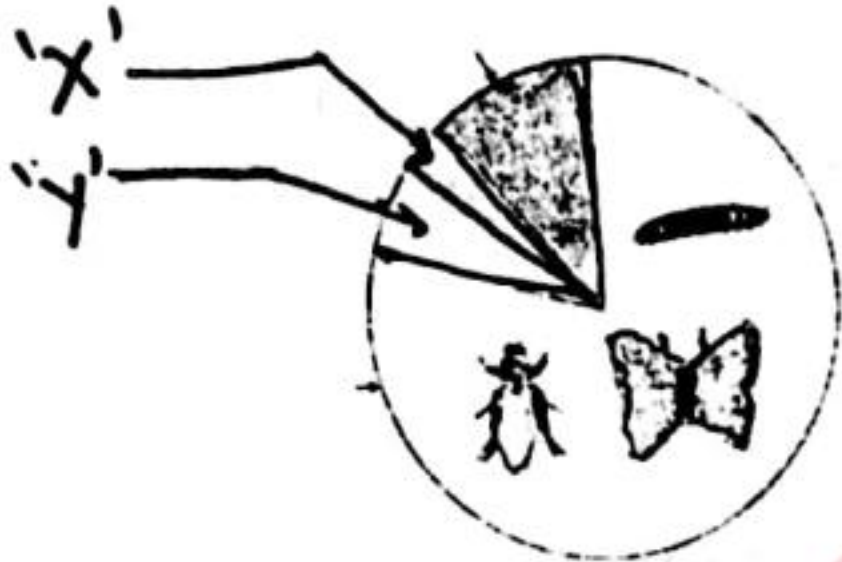
13) Cryopreservation technique are practiced for preserving the gametes of threatened species in viable and fertile condition for long periods. Choose the correct temperature in which it is done?

- A)  $-296^{\circ}\text{C}$
- B)  $-42^{\circ}\text{C}$
- C)  $-90^{\circ}\text{C}$
- D)  $-196^{\circ}\text{C}$

14) In species-Area relationship, select the naturalist and geographer who observed that within a region species richness increased with increasing explored area, but only up to a limit.

- A) Paul Ehrlich
- B) Alexander Von Humboldt
- C) Edward Wilson
- D) David Tilman

15) Following figure represent the global biodiversity showing proportionate number of species at major taxa of invertebrates. Identify 'X' and 'Y'.



- A) X = Molluscs; Y = Crustaceans
- B) X = Crustaceans; Y = Molluscs
- C) X = Crustaceans; Y = Insects
- D) X = Molluscs; Y = Insects

16) According to Central Pollution Control Board (CPCB), particulate size in diameter are responsible for Causing the greatest harm to human health.

- A) 10.0 micrometers
- B) 5.0 micrometers
- C) 2.5 micrometers
- D) 7.5 micrometers

17) Choose the correct option by matching Column - I and Column - II

Column - I	Column - II
(P) Water (Prevention and Control of Pollution) Act,	(i) 1987
(Q) Environment (Protection) Act,	(ii) 1981
(R) Montreal Protocol	(iii) 1974
(S) Air (Prevention and Control of Pollution) Act,	(iv) 1986

- A) (P - iii), (Q - iv), (R - i), (S - ii)
- B) (P - iii), (Q - i), (R - iv), (S - ii)
- C) (P - ii), (Q - iii), (R - iv), (S - i)
- D) (P - iv), (Q - iii), (R - ii), (S - i)

18) Choose the correct option which is correct for 'asexual reproduction'.

Statement P :- Reproductive structures for Chlamydomonas are zoospores.

Statement Q :- Amoeba undergoes both binary and multiple fission under respective conditions.

Statement R :- Fragmentation occurs in Hydra & sponges.

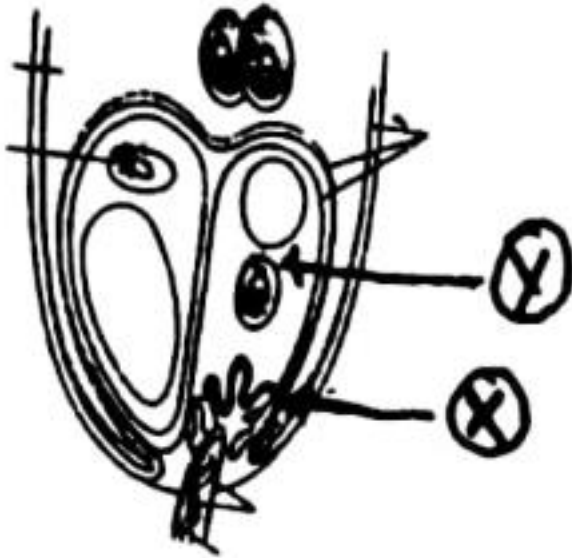
- A) Statements P is true
- B) Statements Q and R are true
- C) Statements P and Q are true
- D) Statements P, Q&R are true

19) Match the following. Choose the correct option.

|p0.17|p0.17|p0.17|p0.17|p0.17|p0.17 & Column - I & Column - II & Column - III  
 (i) & Homothallic & (P) & Monoecious & (X) & Coconut & Chara  
 (ii) & Heterothallic & (Q) & Dioecious & (Y) & Papaya & Merchantia

- A) (I - ii), (II - Q), (III - X)
- B) (I - i), (II - P), (III - X)
- C) (I - i), (II - P), (III - Y)
- D) (I - i), (II - Q), (III - Y)

20) What indicates 'X' and 'Y' in the following diagram?

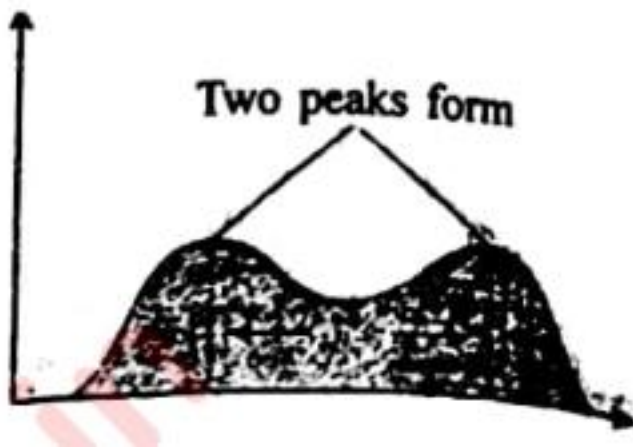
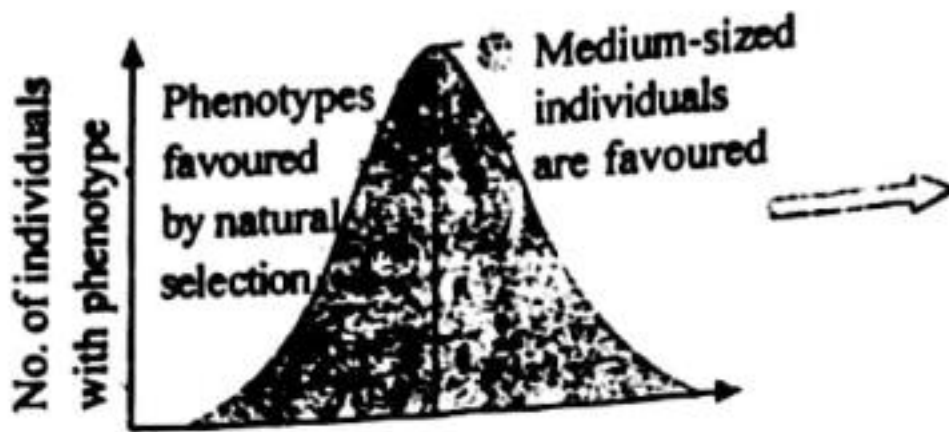


- A) X = Egg cell; Y = Synergid
- B) X = Synergid ; Y = Filiform apparatus
- C) X = Filiform apparatus; Y = Synergid
- D) X = Egg cell; Y = Filiform apparatus

21) In flowering plants, 'triple fusion' is the combination of

- A) Central polar nuclei + One male gamete
- B) Two antipodal cells + One male gamete
- C) Two synergids + One male gamete
- D) Egg cell + Two male gametes (Space for Rough Work) For More GUJCET Papers & Material Visit [www.VisionPapers.in](http://www.VisionPapers.in) !!!

22) The diagram given below represent the operation on matuar scicction on dif trails. Choose the corret option. trails. Choose the correct option.



A) Disruptive

B) Directional

C) Stabilising

D) Stabilising & Directional Both

23) This defines the 'Operon'.

A) Arrangement of operator + regulatory gene

B) Arrangement of structural gene + operator + regulatory gene

C) Arrangement of structural gene + regulatory gene

D) Arrangement of structural gene + promoter + regulatory gene

24) In a microsporangium, which layer is generally having more than one nucleus?

A) Tapetum

B) Middle layers



C) Endothecium

D) Epidermis

25) Choose the correct sequence of transport of sperm in human from seminiferous tubules is:

A) Vasa efferentia → Rete testis → Epididymis → Vas deferens

B) Rete testis → Epididymis → Vasa efferentia → Vas deferens

C) Rete testis → Vasa efferentia → Epididymis → Vas deferens

D) Vas deferens → Vasa efferentia → Epididymis → Rete testis

26) These hormones are produced in women during pregnancy only:

A) hCG, progesterone & relaxin

B) hCG, hPL & relaxin

C) hPL, estrogen & relaxin

D) progesterone, estrogens & relaxin

27) During human fertilisation, this induces changes and acts as a barrier and ensure that only one sperm can enter and fertilise the ovum.

A) Perivitelline space

B) Zona pellucida

C) Corona radiata

D) Cytoplasm of the ovum

28) In females, MTP's are considered relatively safe during weeks of pregnancy.

A) 30 to 36

B) 12 to 24

C) 16 to 28

D) 11 to 22

29) Choose the correct option which can be used by the females as injections or implants under the skin for emergency contraceptive from the following:

i) progesterone

ii) progesterone + estrogen combinations

iii) estrogen

iv) progestasert

A) (i) & (ii)

B) (ii) & (iii)

C) (i) & (iv)

D) (i) & (iii)

30) 'Sex-determination' in Humans is identified by:

A) Somatic cell → autosomes

B) Germ cell → sex chromosome

C) Germ cell → autosomes

D) Somatic cell → sex chromosomes

31) In Turner's Syndrome, during cell division, which type of Aneuploidy is seen?

A)  $(2n + 2)$

B)  $(2n - 1)$

C)  $(2n + 1)$

D)  $(2n - 2)$

position (AA) and white flower (vv) in terminal position (aa). What ratio of white flowers (vv) phenotypically he had received in  $F_2$  generation?

A) 4

B) 3

C) 9

D) 1

33) In the given figure below, what does the 'X' represents?



- A) Glycine (Gly)
- B) Tyrosine (Tyr)
- C) Valine (Val)
- D) Serine (Ser)

(i) The Codon is read in t RNA in a contiguous fashion. There is no punctuations.

ii) Some amino acids are coded by more than one codon.

iii) UUU would code for phenylalanine. ↑

iv) GAA is a stop terminator codon. F Comparing the above statements (i - iv) select the correct option marked with *T* (True) & *F* (False) w.r.t. salient features of genetic code.

- A) FTTF
- B) FFTF
- C) TTFF
- D) FTFT

35) From 15 mya to 40,000 years back, what will be the correct series of indication in evolution of man?

- A) Australopithecines → Homo erectus → Ramapithecus → Neanderthal
- B) Ramapithecus → Homo erectus → Australopithecines → Neanderthal

C) Australopithecines → Ramapithecus → Homo erectus → Neanderthal

D) Ramapithecus → Australopithecines → Homo erectus → Neanderthal

36) In the life cycle of plasmodium sporozoites undergoes asexual reproduction in which cells?

A) Intestinal cells & R.B.C.

B) Liver cells & R.B.C.

C) Liver cells & W.B.C.

D) Salivary glands & W.B.C.

37) This is the correct statement for IgE.

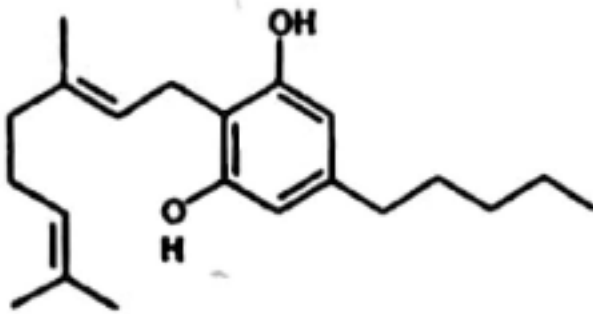
A) Inhibits the secretion of histamine and serotonin from mast cells

B) Doesnot stimulate B cells

C) Giving immune response to allergens

D) This antibody is received from the mother to the foetus through placenta

38) Identify the plant, from where a chemical is extracted whose skeletal structure is given



below.

A) Saccharum officinarum

B) Papaver somniferum

C) Cannabis sativa

D) Eichhornia crassipes

39) Choose the correct option, which is not true for 'inbreeding depression.

A) In breeding refers to the mating of more closely related individuals within the same breed for 4-6 generations which lead to 'inbreeding depression'

B) It increases homozygosity

C) Close inbreeding reduces fertility and productivity

D) It is a practice of mating animals within the same breed but having no common ancestors on either side of their pedigree up to 4-6 generations.

40) From IR-8 and Taichung Native - I, which variety of semi-dwarf crop was derived?

A) Sugarcane

B) Rice

C) Wheat

D) Maize