Roll Number		

SET **A**

INDIAN SCHOOL MUSCAT
SECOND PRE - BOARD EXAMINATION SECOND TERM
BIOLOGY(044)

CLASS: XII TERM 2 Max.Marks: 35

MARKING SCHEME

SET	QN.NO	VALUE POINTS	MARKS SPLIT UP
A	1	AIDS (Acquired Immuno Definciency Syndrome) ½ HIV (Human Immuno Deficiency Virus) ½ Macrophages ½ Helper T lymphocytes ½	½ x 4
	2	Lipase – detergent Pectinase – clarification of juice OR Masses of bacteria associated with fungal filaments to form mesh like structures. While growing, these microbes consume the major part of the organic matter in the effluent. This significantly reduces the BOD (biochemical oxygen demand) of the effluent.	½ x4 1 + 1
	3	Anxiety, shakiness, nausea,sweating	½ x 4
	4	Cyanobacteria are autotrophic microbes widely distributed in aquatic and terrestrial environments many of which can fix atmospheric nitrogen, e.g. Anabaena, Nostoc, Oscillatoria, etc. In paddy fields, cyanobacteria serve as an important bio fertilizer. Blue green algae also add organic matter to the soil and increase its fertility.	1+1
	5	**i)** plants develop certain morphological means of defense e.g. thorns in bougainvillea & spines in cactus. **ii)** plants produce & store certain chemicals which function by directly killing them or by inhibiting them from feeding.	2x1
	6	A stable community contains the following important attributes : i) It shall not show too many variations in the year–to–year productivity. ii) It must be either resistant or resilient to the disturbances occurring in season. iii) It must be resistant to the invasion done by alien species. **OR** Conventional taxonomic methods are not suitable for identifying microbial species.	2x1

ii) Under laboratory conditions many of these species cannot be cultured.

iii) Their diversity would be put into millions with the help of techniques of biochemical & molecular biology. (any two)

7 3x1

Benign	Malignant
Remain confined to their original location and do not spread to other parts of the body and cause little damage.	Malignant tumors are neoplastic cells which grow invading and damaging the surrounding normal tissues.
Does not spread from one place to the other	Cells sloughed from tumors reach distant sites and start new tumors. Metastasis.
Slow growth	Rapid multiplication

OR

(i) Maintenance of personal and public hygiene is very important for Prevention and control of many infectious diseases. Measures for personal hygiene include keeping the body clean; consumption of clean drinking water, food, vegetables, fruits, etc. Public hygiene includes proper disposal of waste and excreta; periodic cleaning and disinfection of water reservoirs, pools, cesspools and tanks and observing standard practices of hygiene in public catering.

(ii) In cases of air-borne diseases such as pneumonia and common cold, in addition to the above measures, close contact with the infected persons or their belongings should be avoided.

(iii) For diseases such as malaria and filariasis that are transmitted through insect vectors, the most important measure is to control or eliminate the vectors and their breeding places. This can be achieved by avoiding stagnation of water in and around residential areas, regular cleaning of household coolers, use of mosquito nets, introducing fishes like Gambusia in ponds that feed on mosquito larvae, spraying of insecticides in ditches, drainage areas and swamps, etc. In addition, doors and windows should be provided with wire mesh to prevent the entry of mosquitoes.

8

(i)	Ascariasis	*Ascaris*	Internal bleeding, muscular pain, fever, anemia and blockage of the intestinal passage
(ii)	**Ringworm**	*Trichophyton*	Appearance of dry, scaly lesions on various parts of the body
(iii)	Typhoid	***Salmonella typhi***	**High fever, weakness, headache, stomach pain, constipation**
(iv)	Pneumonia	*Streptococcus pneumoniae*	Fever, chills, cough and headache
(v)	**Common cold**	Rhino viruses	Nasal congestion and discharge, sore throat, cough, headache
(vi)	Filariasis	***W. bancrofti* and *W. malayi***	Inflammation in lower limbs

9

PLASMID DNA	CHROMOSOMAL DNA
Circular in shape	Linear or circular
Found only in prokaryotic cell	Found in prokayotic and eukaryotic cells.
Pbr 322	

2+1

OR

Lysozyme, lipase,Rnase, protease. Chilled ethanol

10 Predators play an important role in the ecosystem:- 3x1

- They act as conduits for energy transfer to higher trophic levels.
- They Keep the prey population under control which otherwise can reach very high population density.
- They help in maintaining species diversity in a community.

11 Definitions of In situ –National park. Biosphere reserves and Ex situ – Botanical garden, zoo, gene bank 1 ½ x 2

12 The insertional inactivation is the process of insertion of the gene of interest into the coding Sequence of enzyme B– galactosidase leading to the inactivation of the enzyme. An example is when the insert is absent in the plasmid of bacteria then it will lead to the insertional inactivation leading to the production of colorless colonies instead of blue-colored colonies due to the presence of chromogenic substrate. 6x ½

13 5

a. Amplification of gene of interest. (1)
b. Denaturation, annealing, extention (3)
c. Taq polymerase, Thermus aquaticus (½ x 2)

OR

a. Cry protein 1

b. Solubilise in the alkaline pH of the gut, active toxin, perforation, swelling and lysis of gut wall and death of insect (4 x ½)
c. Agrobacterium tumifaciense 1
d. Cotton bollworm, corn borer (any one relevant example) 1

Roll Number		

SET **B**

INDIAN SCHOOL MUSCAT
SECOND PRE - BOARD EXAMINATION
SECOND TERM
BIOLOGY(044)

CLASS: XII TERM 2 Max.Marks: 35

MARKING SCHEME

SET	QN.NO	VALUE POINTS	MARKS SPLIT UP
B	1	**i—C, ii—D, iii—B, iv—A**	½ X4
	2	Pneumonia , Streptococcus pneumoniae Fluid filled alveoli	½ X 2 +1
	7	(a) Cannabinoids (b) Generally taken by inhalation and oral ingestion (c) Affect the cardiovascular system of the body	3X1
	10	Eli Lily Mature insulin lacks C peptide Separately produced A and B peptide and connected by disulphide	3x1

INDIAN SCHOOL MUSCAT
SECOND PRE - BOARD EXAMINATION
SECOND TERM
BIOLOGY(044)

CLASS: XII TERM 2 Max.Marks: 35

Roll Number		

SET **C**

MARKING SCHEME

SET	QN.NO	VALUE POINTS	MARKS SPLIT UP
	3	a) Propionibacterium shermanii b) Aspergillus niger c) Saccharomyces cereviceae d) Monascus purpureus	½ x 4
	6	Fever, chill, haemozoin	½ x 2+1
	7	OR chitinase	
	8	Innate immunity Physical barrier Physiological barrier Cytokine barrier Cellular barrier	1 + ½ x 4
	12	Alexander von Humbolt Rectangular hyperbola increases	3x 1