

Topic :- Microbes In Human Welfare

- 1 **(a)**
Apiary is the place where bees are cultured and breed to get commercial products. *Apis indica* is the small Indian bee (about 15mm long) that inhabits forests and plain regions throughout India. It can be easily domesticated because of gentle nature. *Apis indica* is the best, used in India for apiculture industries.
- 2 **(d)**
Heterosis is also known as hybrid vigour. It is the presence of superior qualities in the hybrid than either of the parents. The term 'hybrid vigour' was given by **G H Shull**.
- 3 **(c)**
Yeast used in baking and the alcohol in alcoholic beverages is a type of **eukaryotic fungus**. Streptokinase is an enzyme obtained from the cultures of some haemolytic bacterium *Streptococcus* and modified genetically to function as clot busters. Lipases are lipid dissolving enzymes that are obtained from *Candida lipolytica* and *Geotrichum candidum*. They are added in detergents for removing oily stains from laundry. Pectinases are obtained commercially from *Byssoschlamys fulva*. Along with proteases, they are used in clearing of fruit juices
- 4 **(b)**
A sewage treatment process in which a part of decomposer bacteria present in the wastes is recycled into the starting of the process is called activated sludge treatment
- 5 **(b)**
Cyanobacteria.

The most suitable source of biofertiliser is achieved by the use of blue-green algae (cyanobacteria), particularly in rice fields. These organisms grow well in symbiotic association with other plants or as free living individuals on the surface of moist soil or under water logged conditions

- 6 **(a)**
Cotyledons and testa are edible parts of groundnut and pomegranate respectively. The edible part of walnut is cotyledon; tamarind-mesocarp; french bean-seeds, coconut-endosperm, testa, cotyledons and embryo, cashewnut-cotyledons and fleshy pedicels and of litchi is fleshy aril.
- 7 **(a)**
Cotton fibres are basically trichomes.
- 8 **(d)**
Methanogens.
Biogas is a methane rich fuel gas produced by anaerobic breakdown or digestion of biomass with the help of methanogenic bacteria. Biogas is made up of methane, carbon dioxide with traces of hydrogen
- 9 **(c)**
Wheat is hexaploid. Thus, basic chromosome number of wheat will be $7(42/6 = 7)$.
- 10 **(a)**
An undistilled alcoholic beverage produced from grain-mesh fermentation is beer. Beer has an alcoholic content of 3-6%
- 11 **(d)**
Cyclosporine-A is an eleven membered cyclic oligopeptide obtained through fermentative activity of fungus *Trichoderma polysporum*. It inhibits activation of T-cells and therefore, prevents rejection reactions in organ transplantation
- 12 **(b)**
Wallago attu (Mullhe), *Rita rita* (Tikanda), *Mystus singhara* (Singhara) and *Clarius batrachus* (Indian cat fish or magur) are some freshwater cat fishes of India.

- 13 **(a)**
‘Jaya’ and ‘Ratna’ are better-yielding semi-dwarf varieties of rice developed in India.
- 14 **(d)**
Shakti, Rattan and Protina are recently developed composite (germplasm complex) varieties of maize, which have a higher lysine and tryptophan content than traditional maize varieties.
- 15 **(b)**
A-Indian Agricultural Research Institute, B-Khadi and Village Industries Commission
- 16 **(b)**
In clinical settings, morphine exerts its principal pharmacological effect on the central nervous system and gastrointestinal tract. Its primary actions of therapeutic value are analgesic and sedation.
- 17 **(c)**
‘Pyrethrin’ a chemical is produced by grinding of flowers of the plant *Chrysanthemum cinerarifolium*. Pyrethroids are synthetic derivatives of pyrethrin and are quick-acting broad spectrum, toxic **insecticides**. They are quite expensive, not used on a large scale in India at present.
- 19 **(d)**
As growth regulators control the growth of plants, pesticides control the pests and fertilizers enhance productivity of the soil, hence all of these are regarded as agricultural chemicals.
- 20 **(d)**
Leaves of *Ocimum* (tulsi) can sharpen the memory and are also used as nerve tonic.

ANSWER-KEY										
Q.	1	2	3	4	5	6	7	8	9	10
A.	A	D	C	B	B	A	A	D	C	A
Q.	11	12	13	14	15	16	17	18	19	20
A.	D	B	A	D	B	B	C	D	D	D