

Topic :- Microbes In Human Welfare

- 1 **(c)**
The timber yielding plant *Shorea robusta* belongs to the family-Dipterocarpaceae. It is used for construction work and eminently suited for railway sleeper.
- 2 **(c)**
The latex from unripe fruits of (*Papaver somniferum*) yields opium. It contains alkaloids like morphine, codeine, papaverene, etc. Morphine relieves pain and codeine is mild analgesic.
- 3 **(a)**
Glomus is a genus of *Arbuscular Mycorrhizal* (AM) fungi and all species form symbiotic relationships (mycorrhizae) with plant roots. Roots infected with *Glomus* may protect the host plant from harmful soil borne pathogens, provided limiting nutrients, and increase overall fitness of the host. The *Glomus* plant symbiosis plays an important role in the economic sectors involving the growth of plants such as agriculture, horticulture and forestry
- 4 **(a)**
Biogas is the **methane rich** fuel gas produced through anaerobic breakdown and fermentation of animal dung (of biomass).
- 5 **(c)**
In 1963, ICAR introduced many dwarf selections from CIMMYT, including those developed by **Norman Borlaug** using Norin-10 as the source of dwarfing genes.
- 6 **(b)**
The process that leads to the adaptation of variety, line or population to a new environment

- is known as **acclimatization**.
- 7 **(b)**
Pashmina wool is obtained from Kashmiri goat.
- 8 **(a)**
DDT is an organochlorine. Now-a-days DDT is banned because it has an affinity for fatty tissues of animals, which lead to biomagnification. Besides, with the repeated use of such pesticides, a kind of accelerated evolution occurs to produce resistant population of pests.
- 9 **(c)**
Biogas or gobar gas generation has been taken up in India on a large scale. The technology was developed by the collaboration of Khadi and Village Industries Commission (KVIC) and Indian Agricultural Research Institute (IARI)
- 10 **(c)**
Petunia, family- Solanaceae is an ornamental plant.
- 11 **(b)**
Rauwolfia is obtained from root of *Rauwolfia serpentina* which belongs to family-Apocynaceae.
- 12 **(d)**
Plymoth rock, Wyandotte, new Hampshire, Rhode Island Red are some of the American breeds of poultry, Aurtralop and Sussex are British breeds, white leghorn and Minorica are Mediterranean breeds and Assel is a desi or indigenous breed.
- 13 **(a)**
A-Acid; B-Milk protein.
Lactic Acid Bacteria (LAB) like *Lactobacillus* are added to milk. It converts lactose sugar of milk into lactic acid. Lactic acid causes coagulation and partial conversion of milk protein casein to calcium paracaesinate. Milk is changed into curd, yoghurt and cheese
- 14 **(a)**
Wine and beer are produced without distillation of fermented broth
Whisky, brandy and rum are produced by distillation of the fermented broth
- 16 **(a)**
Glomus (fungi), earthworm, *Oscillatoria* are used

in organic farming.

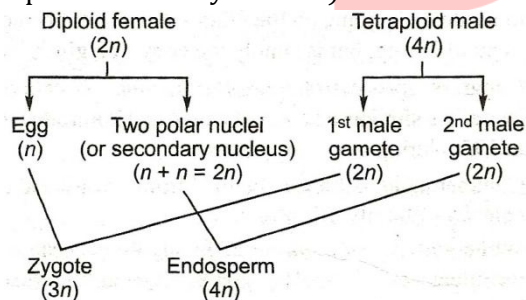
(i) *Glomus* absorb phosphorus from soil and passes it to the plant

(ii) Vermiculture and its application are now recognized as one of the best ways to restore soil health. Earthworms are now synonymous with organic farming.

(iii) *Oscillatoria* fix atmospheric nitrogen and increase the organic matter of the soil

17 (c)

Endosperm is formed by the fusion of two polar nuclei or their fusion product (secondary nucleus) with second male gamete. A diploid female plant will produce a haploid egg and two haploid polar nuclei. The chromosome number in the male gamete produced from a tetraploid male plant will be half of its mate parent (tetraploid male) *i.e.*, male gametes will be diploid. Hence, these plants when crossed, produce triploid zygote (fusion product of diploid male gamete with haploid egg) and tetraploid endosperm (fusion product of diploid male gamete and diploid secondary nucleus).



18 (b)

Somatic hybridization or parasexual hybridization involves the fusion of isolated protoplasts of two different species.

19 (b)

Quinine is obtained from bark of *Cinchona officinale*. Opium is obtained from fruits of *Papaver somniferum*. Ashwagandha is obtained from root of *Withania somnifera*.

20 (b)

Morphine is obtained from *Papaver somniferum*.

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

PE