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MFT-002

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POST GRADUATE DIPLOMA IN FOOD SCIENCE AND TECHNOLOGY (PGDFT)

Term-End Examination

June, 2015

MFT-002 : FOOD MICROBIOLOGY

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt **all** questions. **All** the questions carry **equal** marks.*

1. Fill in the blanks : **10x1=10**

(a) Vinegar is produced by the organism _____.

(b) _____ was the first discovered antibiotic by _____ .

(c) Enzymes which recognize and cleave pieces of DNA at specific sites are called _____ and give rise to sequences with two fold similarity.

(d) A carrier for DNA molecule for introducing new DNA permanently into a cell is called _____ .

(e) _____ is the first human hormone produced on a large scale by genetic engineering.

(f) A genetically homogeneous population of a micro-organism is termed as _____.

(g) _____ is also called as Baker's yeast.

(h) The common symptoms of food poisoning are _____, _____ and _____.

(i) _____ is used in combination with _____ for the preparation of yoghurt.

(j) Peptide secondary metabolites produced by one class of organisms which are inhibitory to another group of organisms are called as _____.

2. Match the following : **20x½=10**

(a)	Potassium metabisulphite	(i)	Aflatoxin
(b)	Soluble solids	(ii)	Acidophilus milk
(c)	Kefir	(iii)	Virus
(d)	Clostridium	(iv)	Q fever
(e)	Proteolytic	(v)	Circular DNA fragments
(f)	MPN	(vi)	Peptidoglycan
(g)	Nisin	(vii)	Lipid A
(h)	Louis Pasteur	(viii)	Kary Mullis
(i)	ELISA	(ix)	Acid and gas
(j)	Food infection	(x)	Short DNA fragments
(k)	Primers	(xi)	Water quality
(l)	Coliforms	(xii)	Lactococcus lactis
(m)	PCR	(xiii)	Pasteurization
(n)	Gram negative	(xiv)	Immunoassay
(o)	Gram positive	(xv)	Salmonella
(p)	Fungal toxin	(xvi)	Sulphurdioxide
(q)	Lactobacillus acidophilus	(xvii)	Refractometer
(r)	H1N1	(xviii)	Fermented milk
(s)	Plasmids	(xix)	Anaerobic spore former
(t)	Coxiella burnetii	(xx)	Protein breakdown

3. (a) Define the following in **one** sentence : **10x0.5=5**

(i) Starter cultures
(ii) Pasteurization
(iii) Gram −ve and Gram +ve bacteria
(iv) Relative Humidity
(v) Modified atmosphere packaging
(vi) Infection
(vii) Leavening
(viii) Vinegar
(ix) Curdling
(x) Yoghurt

(b) Expand the following : **10x0.5=5**

(i) UHT
(ii) a_w
(iii) CFU
(iv) MPN
(v) PCR
(vi) MRS
(vii) AMI
(viii) HTST
(ix) NDRI
(x) ELISA

4. Write short notes on **any two** of the following : **5x2=10**

(a) SCP
(b) Blanching
(c) Sauerkraut
(d) Koch's postulate

5. Define growth and describe the growth curve of a bacterial population with a time v/s log numbers figure. **10**

OR

Distinguish fruits and vegetables in terms of their vulnerability to spoilage. Describe control measures to prevent fungal spoilage in fruits. **5+5=10**

6. Bring out the differences in moist heat and dry heat forms of sterilization with examples. Bring out the primary and secondary role of starter cultures and give four examples of starter cultures. **5+5=10**

OR

Distinguish between the following : **5x2=10**

(i) Exotoxins and Endotoxins

(ii) Food infections and food intoxications

(iii) Prebiotics and probiotics

(iv) Synthetic and non-synthetic media

(v) D and F values

7. Define fermentation with examples and distinguish between batch fermentation and continuous fermentation. **10**

OR

Define MA/CA storage of fruits and vegetables. Mention the minimum O_2 and maximum CO_2 levels tolerated by fruits and vegetables. **10**