GATE 2015 FOOD TECHNOLOGY – XL-M

M: FOOD TECHNOLOGY

$Q.\ 1-Q.\ 10$ carry one mark each.

Q.1	Standard pasteurization protocol for milk is adequate for destroying					
	(A) Clostridium sp (C) Clostridium bo	=	(B) Bacillus cer (D) Listeria mod			
Q.2	Which one of the following is NOT a component of an evaporator?					
	(A) Heat exchanger(C) Condenser		(B) Vacuum separator(D) Cyclone separator			
Q.3	Among the following animal foods, the fat content is least in					
	(A) Beef	(B) Chicken meat	(C) Pork	(D) Lamb flesh		
Q.4	The enzyme that hydrolyzes starch to maltose is					
	(A) α-amylase(C) glucoamylase		(B) β-amylase(D) cyclodextrin glucanotransferase			
Q.5	Which one of the following is NOT enriched in endosperm during parboiling of paddy?					
	(A) Thiamine	(B) Niacin	(C) Iron	(D) Fat		
Q.6	Heat-treated legume seed proteins are more digestible than those of untreated legume seed proteins due to					
	 (A) reaction of reducing sugars with ε-amino group of lysine (B) increased binding of lectins to intestinal mucosal cells (C) thermolabile nature of lectins and Kunitz-type protease inhibitors (D) thermolabile nature of Bowman-Birk type of inhibitor 					
Q.7	What is the percent relative humidity at which both the dry bulb and wet bulb thermometers would record equal temperatures?					
	(A) 0	(B) 10	(C) 50	(D) 100		
Q.8	How many fold would the <i>g</i> -number of a centrifuge increase by doubling both the spinning speed and bowl diameter?					
	(A) 2	(B) 4	(C) 8	(D) 16		
Q.9	Prolonged fermentation of cocoa seeds lead to "off-taste" due to the release of					
	(A) glucose(B) short chain fatty acids(C) carbon dioxide(D) phospholipids					

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Q.10 The gradual decrease in viscosity of tomato paste during storage can be prevented by quickly heating it to $82\,^{\circ}\text{C}$, because

- (A) water soluble pectin interacts with calcium
- (B) hemicellulose prevents decrease in viscosity
- (C) lignin prevents decrease in viscosity
- (D) pectin methyl esterase is inactivated

Q. 11 – Q. 20 carry two marks each.

Q.11 Match the enzyme in **Group I** with its corresponding application in **Group II**

Group I	Group II
(P) Chymosin	(1) Removal of cooked flavor from milk
(Q) Sulfhydryl oxidase	(2) Soybean milk coagulation
(R) β-Galactosidase	(3) For rennet puddings
(S) Microbial proteases	(4) Lactose removal
(A) P-3, Q-2, R-1, S-4	(B) P-3, Q-1, R-4, S-2
(C) P-1, Q-3, R-4, S-2	(C) P-4, Q-3, R-2, S-1

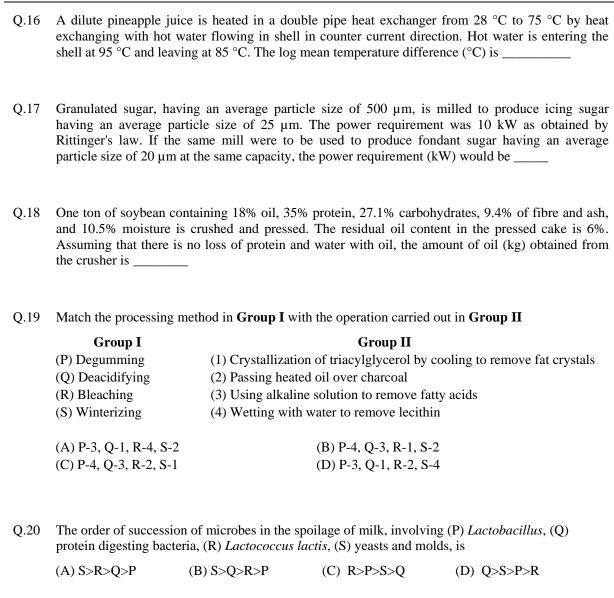
- Q.12 Milk is flowing at 0.12 m³/min in a 2.5 cm diameter pipe. The temperature of the milk is 21 °C and the corresponding viscosity and density are 2.1 x 10⁻³ Pas and 1029 kg/m³, respectively. If the flow is found to be turbulent under the given conditions, the Reynolds number is ______
- Q.13 Whole milk (34,950 kg) containing 4% fat is to be separated in 6 h period into skim milk with 0.45% fat and cream with 45% fat. The flow rate of cream stream (kg/h) from the separator is
- Q.14 Match the edible plant tissue in **Group I** with the type of carotenoid given in **Group II**

Group I	Group II
(P) Corn	(1) Lycopene
(Q) Red pepper	(2) β-Carotene
(R) Pumpkin	(3) Capsanthin
(S) Tomato	(4) Lutein
(A) P-3, Q-4, R-2, S-1	(B) P-2, O-1, R-3, S-4
(C) P-4, Q-3, R-2, S-1	(D) P-1, Q-2, R-4, S-3

- Q.15 Green tea is considered to be a more healthy option than black tea because it
 - (A) has high content of polyphenols
 - (B) is richer in thearubigin
 - (C) does not require any sweetener during tea preparation
 - (D) has no microbial load

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END OF THE QUESTION PAPER

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