



61814

ROLL No.

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TEST BOOKLET No.

06

TEST FOR POST GRADUATE PROGRAMMES

FOOD SCIENCE

Time: 2 Hours

Maximum Marks: 450

INSTRUCTIONS TO CANDIDATES

1. You are provided with a Test Booklet and an Optical Mark Reader (OMR) Answer Sheet to mark your responses. Do not soil the Answer Sheet. Read carefully all the instructions given on the Answer Sheet.
2. Write your Roll Number in the space provided on the top of this page.
3. Also write your Roll Number, Test Code, and Test Subject in the columns provided for the same on the Answer Sheet. Darken the appropriate bubbles with a **Ball Point Pen**.
4. The paper consists of 150 objective type questions. All questions carry equal marks.
5. Each question has four alternative responses marked **A, B, C** and **D** and you have to **darken** the bubble fully by a **Ball Point Pen** corresponding to the correct response as indicated in the example shown on the Answer Sheet.
6. Each correct answer carries 3 marks and each wrong answer carries 1 minus mark.
7. Space for rough work is provided at the end of this Test Booklet.
8. You should return the Answer Sheet to the Invigilator before you leave the examination hall. However, you can retain the Test Booklet.
9. Every precaution has been taken to avoid errors in the Test Booklet. In the event of any such unforeseen happenings, the same may be brought to the notice of the Observer/Chief Superintendent in writing. Suitable remedial measures will be taken at the time of evaluation, if necessary.

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1. Black rot due to bacterial spoilage of egg is caused by
 - (A) Aeromonas
 - (B) Acinetobacter
 - (C) Serratia
 - (D) None of the above

2. Compound used for making food emulsions and to stabilise them is
 - (A) Propylene glycol esters
 - (B) Pectin
 - (C) Guar Gum
 - (D) Gelatin

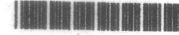
3. Principal chemical compound in the thickening agent pectin is
 - (A) Galacturonic acid
 - (B) Mannuronic acid
 - (C) Arabinose
 - (D) Carboxy methyl D-glucose

4. Artificial ripening of fruit is accomplished by treatment with
 - (A) Ethylene gas
 - (B) IAA
 - (C) Zeatin
 - (D) Sodium Chloride

5. Which is the key intermediate compound linking glycolysis to kreb cycle?
 - (A) Malic
 - (B) Acetyl CoA
 - (C) NADH
 - (D) ATP

6. Which of the following is the ketohexose?
 - (A) Fructose
 - (B) Maltose
 - (C) Glucose
 - (D) Ribose

7. All enzymes are basically in nature.
 - (A) RNA
 - (B) DNA
 - (C) Protein
 - (D) None of the above



8. Common indicator organisms of water pollution is
- (A) *Escherichia coli* (B) *Vibrio cholera*
(C) *Salmonella typhi* (D) *Entamoeba histolytica*
9. Phrynoderma (toad skin) is caused by
- (A) deficiency of essential fatty acids
(B) deficiency of vitamin
(C) deficiency of mineral
(D) None of the above
10. Which among them is a polysaccharide?
- (A) Cellulose, Hemicellulose (B) Fructosans, galactans
(C) Pentosans, Pectins (D) All of the above
11. The best temperature for the growth of staphylococci is
- (A) 10° to 15°C (B) 12° to 25°C
(C) 12° to 35°C (D) 12° to 50°C
12. The spores of germinate in canned tin
- (A) staphylococci (B) botulinum
(C) perfringes (D) None of the above
13. Yeast fermentation produces chemical changes in which enzymes produced by the yeast cell converts
- (A) alcohol into Sugar (B) protein into Amino acid
(C) fats into fatty acid (D) sugar into alcohol
14. For the quantitative analysis of food nutrients which of the following technique is used?
- (A) Chemical (B) Fluorometric
(C) Biological (D) All of the above



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15. Chemical compounds in foods which perform one or more specific function in the body are/is
- (A) Nutrients (B) Food group
(C) Nutrition (D) None of the above
16. Intake of iron and iodine gives protection against
- (A) Anaemia and goiter (B) Anaemia and rickets
(C) Beriberi and goiter (D) Osteoporosis and Beriberi
17. Lysine is a limiting amino acid in
- (A) Wheat (B) Rice
(C) Corn (D) All of the above
18. Parboiled rice contains sufficient amount of
- (A) Nicotine (B) Thiamin
(C) Niacin (D) None of the above
19. The bran, the germ and the endosperm are the three parts of
- (A) Vegetable (B) Kernel of cereal grain
(C) Fruits (D) None of the above
20. Which of the following is not a good source of essential fatty acids?
- (A) Sun flower (B) Soyabean
(C) Cottonseed oil (D) Coconut
21. According to FPO specification TSS (%) for fruit jam is
- (A) 68 (B) 70
(C) 65 (D) 55

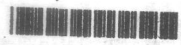
22. Which of the following is not a synthetic food colour?
- (A) Carmoisine (B) Erythrosine
(C) Tartrazine (D) Caramel
23. Soft rot in fruits is caused by
- (A) *Aspergillus species* (B) *Pencillium digitatum*
(C) *Pencillium expansum* (D) All of the above
24. Canning is also sometimes called as
- (A) Appertisation (B) Pasteurisation
(C) Sterilisation (D) Cold Sterilisation
25. Hurdle technology consists of
- (A) Mixture of different ingredients to form a uniform quality product
(B) Mixture of different preservation technique
(C) Using irradiation for increasing the shelf life of meat
(D) None of the above
26. Antimicrobial activity of sodium chloride is related to its ability to
- (A) bind with the thiamine of the microorganism
(B) increase the rate of oxidation
(C) decrease the water activity
(D) All of the above
27. Nisin is used as
- (A) an antimicrobial agent (B) an emulsifier
(C) a stabiliser (D) an acidulant



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28. Cyclamate is
- (A) a leavening agent
 - (B) a antimicrobial agent
 - (C) a non-nutritive sweetener
 - (D) a shortening
29. Sauerkraut is the
- (A) fermented raddish
 - (B) fermented carrot
 - (C) fermented cabbage
 - (D) fermented spinach
30. Papain is
- (A) an antibiotic
 - (B) an artificial sweetner
 - (C) a proteolytic enzyme
 - (D) an anticaking agent
31. Astringency in fruits is found due to the presence of
- (A) Peptides
 - (B) Xanthophyll
 - (C) Tannins
 - (D) All of the above
32. Starch is a
- (A) protein
 - (B) carbohydrate
 - (C) fat
 - (D) mineral
33. The most effective way to eliminate living microorganisms in spices is
- (A) freezing
 - (B) irradiation
 - (C) heat
 - (D) selected chemicals
34. Fruits and vegetables discolour when bruised or cut due to
- (A) caramelisation
 - (B) sulfiting
 - (C) dehydration
 - (D) enzymatic browning



35. is an alternative name for baking soda.
- (A) Carbon dioxide (B) Potassium bitartrate
(C) Sodium bicarbonate (D) Calcium Carbonate
36. stands for system that is used to enhance food safety in food processing packaging, storage, distribution and preparation.
- (A) Good manufacturing practices
(B) Hazard analysis and critical control point
(C) High accuracy and contamination control point
(D) Best management practices
37. The protein in meat that is primarily responsible for meat colour is
- (A) Myosin (B) Actin
(C) Myoglobin (D) Haemoglobin
38. is the science of evaluating a food product for smell, appearance, taste and texture.
- (A) Proximate analysis (B) Food chemistry
(C) Rheology (D) Sensory evaluation
39. A complex protein molecule that stimulates or speeds up a specific chemical reaction without being used up itself is called
- (A) Microorganism (B) Experiment
(C) Mycelium (D) Enzyme
40. To determine the amount of free water available for microbes to use in a food system, a food scientist would measure the of that food
- (A) water activity (B) percent water
(C) pH (D) brix



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41. FPO stands for
- (A) Fruit Production Operation
 - (B) Fruit Product Order
 - (C) Flavour Production Office
 - (D) Fruit Procurement
42. Central Food Technological Research Institute is located in
- (A) Bangalore
 - (B) Mysore
 - (C) Kolkata
 - (D) Mumbai
43. ISO 14000 deals with
- (A) an iron and steel industry
 - (B) a food industry
 - (C) environment management
 - (D) population control
44. Mayonnaise is an example for the food dispersion namely
- (A) Sol
 - (B) Gel
 - (C) Emulsion
 - (D) Foam
45. The chief protein present in wheat is called
- (A) Casein
 - (B) Gelatin
 - (C) Gluten
 - (D) Globulin
46. Which among the following is an unsaturated fatty acid?
- (A) Lauric acid
 - (B) Palmitic acid
 - (C) Capric acid
 - (D) Linoleic acid
47. Reddish water - soluble pigment occurring in fruits and vegetables is
- (A) Anthocyanins
 - (B) Anthoxanthin
 - (C) Flavones
 - (D) Catechins



48. Germination of legumes increases
- (A) Vitamin A (B) Vitamin C
(C) Vitamin D (D) None of the above
49. Separation of water on the surface of fruit jelly is called
- (A) Syneresis (B) Gel formation
(C) Grading (D) Esterification
50. Which one is not a protein in egg yolk?
- (A) Phosvitin (B) Livetin
(C) Lipovitellin (D) Ovomucin
51. In the production of Tempeh from soyabean the organism used is
- (A) *Rhizopus oligosporus* (B) *Aspergillus oryzae*
(C) *Aspergillus flavus* (D) *Leuconostoc mesentroides*
52. is a measure of the extent of unsaturated fatty acids present in fats and oils
- (A) Iodine value (B) Acid value
(C) Saponification value (D) Thiocyanogen value
53. Dry heat brings changes to starch granules through a process known as
- (A) Fermentation (B) Browning
(C) Dextrinisation (D) Syneresis
54. Which of the following is not an essential amino acid?
- (A) Tryptophan (B) Threonine
(C) Leucine (D) Proline



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55. Which of the following is the baker's yeast?
- (A) *Saccharomyces cerevisiae*
 - (B) *Saccharomyces bulgaricus*
 - (C) *Saccharomyces carlsbergensis*
 - (D) All of the above
56. Which of the following microorganisms is used in beer making?
- (A) Yeast
 - (B) Bacteria
 - (C) Mold
 - (D) All of the above
57. A subculture is a
- (A) colony growing beneath the media surface
 - (B) culture made from a contaminant
 - (C) culture made in an embryo
 - (D) culture made from an isolated colony
58. Sanitisation is a process by which
- (A) the microbial load on objects is reduced
 - (B) objects are made sterile with chemicals
 - (C) utensils are scrubbed
 - (D) skin is described
59. The temperature / pressure combination for an autoclave is
- (A) 100°C and 4 psi
 - (B) 131°C and 9 psi
 - (C) 121°C and 15 psi
 - (D) 115°C and 3psi
60. Total plate count method is being expressed in
- (A) number of cell / ml
 - (B) c.f.u / ml
 - (C) optical density
 - (D) None of the above
61. Ropiness in bread is caused by
- (A) *Bacillus licheniformis*
 - (B) *Serratia marcescens*
 - (C) *Geotrichum auranticum*
 - (D) None of the above

62. are most common causes of spoilage of fruits and vegetable
- (A) Molds (B) Yeasts
(C) Bacteria (D) All of the above
63. Egg quality is manually checked by seeing it through a lamp. It is called
- (A) Lightening (B) Candling
(C) Lamping (D) Viewing
64. In smoked fish the causative organism for its spoilage is
- (A) *Aspergillus flavus* (B) *Penicillium expansum*
(C) *Pseudomonas salinera* (D) *Clostridium botulinum*
65. The milk is pasteurised at 62.8°C for 30 min. to eliminate
- (A) *Mycobacterium tuberculosis*
(B) *Coxiella burnetti*
(C) *Listeria monocytogens*
(D) *Callus cereus*
66. Controlled growth of is recommended for flavour development in meat.
- (A) penicillium (B) sporotrichum
(C) thamnidium (D) cladosporium
67. Spoilage of wine is caused by
- (A) *Acetobacter* (B) *Leuconostoc*
(C) *Lactobacillus* (D) All of the above
68. Flat sour spoilage of canned food is caused due to
- (A) *Pseudomonas* (B) *Bacillus*
(C) *Clostridium* (D) *Serratia*



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69. Ale is manufactured by
- (A) top yeast (B) bottom yeast
(C) capsulated bacteria (D) thermophilic mold
70. Cider is fermented
- (A) apple (B) banana
(C) orange (D) cherries
71. Fats and oils are part of a family of compounds called
- (A) proteins (B) carbohydrates
(C) lipids (D) fibre
72. A food contains 5 grams of fat, 10 grams of carbohydrates and 4 grams of protein. That would be equivalent to calories
- (A) 88 (B) 101
(C) 93 (D) 105
73. GMP is an acronym for in the food industry
- (A) get more practice
(B) good manufacturing procedures
(C) good methods procedures
(D) good manufacturing practices
74. The sugar..... is sweeter than sucrose
- (A) fructose (B) lactose
(C) glucose (D) maltose
75. The technical name for freeze drying is
- (A) Lyophilisation (B) Sublimation
(C) Condensation (D) Evaporation

76. Milk undergoes a process called that is intended to break down fat globules so they are smaller and more uniform in size
- (A) homogenisation (B) pasteurisation
(C) encapsulation (D) emulsification
77. Lactose is
- (A) Monosaccharide (B) Disaccharide
(C) Oligosaccharide (D) Polysaccharide
78. For hydrogenation of oils, the catalyst required is
- (A) Iron (B) Aluminum
(C) Nickel (D) Magnesium
79. Soyabean oil shows some beany flavour. It may be due to
- (A) microbial degradation (B) rancidity
(C) reversion (D) putrefaction
80. Which vitamin is known as "sunshine vitamin"?
- (A) Vitamin A (B) Vitamin C
(C) Vitamin D (D) Vitamin E
81. RDA stands for
- (A) Regional Dietary Advisor
(B) Recommended Dietary Allowances
(C) Regional Drug Administrator
(D) Recent Dietary Advancement
82. Ragi is very good source of
- (A) Calcium (B) Vitamin C
(C) Essential fatty acids (D) Zinc



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83. The eating disorder that is characterised by self imposed starvation is
- (A) Anorexia (B) Flatulence
(C) Obesity (D) Malnutrition
84. Formation of dark greenish discolouration in hard eggs is due to formation of
- (A) Ferrous sulphide (B) Ferrous sulphate
(C) Ferrous nitrate (D) None of the above
85. Cereals are deficient in
- (A) Methionine (B) Phenylalanine
(C) Valine (D) Lysine
86. ANSA is used for the estimation of in food.
- (A) iron (B) calcium
(C) phosphorus (D) copper
87. Which of the following component of fruit acts as antioxidant?
- (A) Malic acid (B) Pectin
(C) Vitamin C (D) None of the above
88. Which of the following is used as the clarifying agent of fruit juice?
- (A) Pectin (B) Gelatin
(C) Calcium propionate (D) None of the above
89. TSS of fruit squash is
- (A) 12% (B) 25%
(C) 30% (D) 40%



90. Proteolytic enzyme bromelin used for tenderisation of meat is obtained from
- (A) pineapple (B) figs
(C) papaya (D) apple
91. For flavor incorporation in cheese the source for microbial enzyme lipase is
- (A) *Aspergillus niger* (B) *Bacillus subtilis*
(C) *Leuconostoc mesenteroides* (D) *Trichoderma viride*
92. The instrument used for measuring the butter content of milk is
- (A) Refractometer (B) Butyrometer
(C) Viscometer (D) Consistometer
93. Optimum Relative Humidity for mold is
- (A) 92% (B) 90%
(C) 85-90% (D) 70%
94. Which of the following is a process for inactivation of food enzyme?
- (A) Blanching (B) Antioxidant
(C) Filtration (D) Asepsis
95. Neurotoxin is produced by the microorganism
- (A) *Staphylococcus aureus* (B) *Clostridium botulinum*
(C) *Mycotoxigenesis* (D) *Salmonella*
96. Among the following food borne disease causative pathogen, which one is gram negative bacteria?
- (A) *Bacillus cereus* (B) *Campylobacter jejuni*
(C) *Clostridium botulinum* (D) *Listeria monocytogenes*



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97. A component of the egg which is responsible for holding the yolk to centre of egg is
- (A) Air cell (B) Chalazae
(C) Shell (D) Vitelline membrane
98. PFA was promulgated in
- (A) 1955 (B) 1954
(C) 1976 (D) 1973
99. As per the PFA Rule, minimum amount of fat in the whole dried milk powder is
- (A) 17% (B) 23%
(C) 26% (D) 30%
100. Smoking is used for the preservation of
- (A) Cereal (B) Meat
(C) Egg (D) Fruits
101. Shell fish undergoes bacterial spoilage by
- (A) pseudomonas (B) acinetobacter
(C) moraxella species (D) All of the above
102. Acid which is mainly responsible for acidic pH of cocoa pulp is
- (A) malic acid (B) acetic acid
(C) citric acid (D) tartaric acid
103. Pasta products are prepared from
- (A) Hard wheat (B) Durum wheat
(C) Soft wheat (D) Buckwheat flour

104. Machine polished rice is responsible for
- (A) Rickets (B) Scurvy
(C) Pellagra (D) Beriberi
105. Poor quality egg floats in water due to
- (A) Microbial spoilage (B) Increase in air cell
(C) Decrease in air cell (D) None of the above
106. Which of the following vitamin is water soluble?
- (A) Vitamin A (B) Vitamin K
(C) Vitamin C (D) Vitamin E
107. Wort is obtained during the manufacture of
- (A) Messo (B) Beer
(C) Vinegar (D) Bread
108. Tenderisation of meat leads to the
- (A) retaining the colour of meat
(B) softening of muscles
(C) prevention of microbial deterioration
(D) All of the above
109. Cereals contain about
- (A) 55-100 kcal/100g of grains
(B) 300-350 kcal/100g of grains
(C) 200-250 kcal/100g of grains
(D) 100-150 kcal/100g of grains
110. Which of the following tea is gaining more attention due to their health benefits?
- (A) Yellow tea (B) Black tea
(C) Green tea (D) Red tea



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111. Aflatoxin is
- (A) Antinutritional factor (B) Algal toxin
(C) Fungal toxin (D) Bacterial toxin
112. Kjeldhal method is used to estimate in food sample.
- (A) protein (B) fat
(C) calcium (D) thiamine
113. The instrument used for measuring the firmness of foods is
- (A) Penetrometre (B) Nephelometre
(C) Viscometre (D) Hygrometre
114. Novel foods containing microorganism that have beneficial effect on the health of the host by improving the microbiological balance of the intestine is called
- (A) Probiotic food (B) Processed food
(C) Prebiotic food (D) None of the above
115. Bacteria responsible for food borne intoxication is
- (A) *Salmonella species* (B) *Bacillus cereus*
(C) *Staphylococcus aureus* (D) *Clostridium perfringens*
116. Fermentation process by Yeast takes place under
- (A) aerobic respiration (B) anaerobic respiration
(C) oxidation (D) decarbonisation
117. What is dry ice?
- (A) Solidified oxygen (B) Solidified carbondioxide
(C) Deep freeze ice (D) Ice packed in cloth

118. Taste difference among starch based products like sugar, honey, glucose is due to
- (A) concentration (B) dilution
(C) molecular structure (D) preservation
119. Tricarboxylic acid cycle occurs to generate energy by
- (A) anaerobic organisms (B) aerobic organisms
(C) parasitic organisms (D) None of the above
120. The amount of energy expended daily by humans and other animals at rest is known as
- (A) anabolic rate (B) catabolic rate
(C) basal metabolic rate (D) basal anabolic rate
121. Toxic accumulation of heavy metals in soft tissues of the body is known as
- (A) heavy metal contamination (B) heavy metal accumulation
(C) heavy metal draining (D) heavy metal poisoning
122. Scurvy is caused by the deficiency of
- (A) Vitamin A (B) Vitamin D
(C) Vitamin B (D) Vitamin C
123. Nutrition relates to
- (A) diseases
(B) toxicity of food
(C) food and health
(D) chemical changes in the body
124. Fat soluble vitamins are
- (A) A, D, E and K (B) A, B, C and D
(C) C, D, E and K (D) B, C, E and K



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125. The enzyme of saliva that breaks down carbohydrate is
- (A) protease (B) amylase
(C) lipase (D) oxidase
126. *Salmonella* is a
- (A) probiotic bacteria (B) food poisoning bacteria
(C) sporozoan parasite (D) blood parasite
127. Lactose contains
- (A) a molecule of glucose and one molecule of fructose
(B) a molecule of glucose and one molecule of galactose
(C) two molecules of glucose
(D) a molecule of galactose and a molecule of fructose
128. Oxygenated derivatives of carotenes are
- (A) vitamin (B) anthocyanin
(C) tannin (D) xanthophylls
129. An apoenzyme contains
- (A) both proteins and co-factors
(B) only the protein factor
(C) only the co-factor
(D) no protein and no factor
130. The other name of bacillary dysentery is
- (A) amoebiosis (B) ketosis
(C) paralysis (D) shigellosis
131. Yeast secrete the enzyme complex called
- (A) diastase (B) isomerase
(C) zymase (D) phenolase

132. Citric acid is produced by
- (A) clostridium (B) penicillium
(C) aspergillus (D) mucor
133. The unavailable sugars in pulses which are known for flatulence production is
- (A) maltose (B) raffinose
(C) sucrose (D) galactose
134. The enzyme present in the raw papaya is
- (A) papain (B) bromelin
(C) citric acid (D) tocopherol
135. Fish oil is rich in vitamin
- (A) D (B) E
(C) K (D) B
136. Canning procedure was invented by
- (A) Jenner (B) Roentgen
(C) Louis Pasteur (D) Nicholas Apert
137. The processing technology of using carbondioxide at high pressure to separate food components is known as
- (A) hydrostatic pressure (B) heat exchangers
(C) extrusion (D) supercritical fluid extraction
138. A hidden quality in food attributes to
- (A) nutritive value (B) flavour
(C) viscosity (D) mouthfeel



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139. Taste buds near the tip of the tongue are sensitive to
- (A) sweet and salt (B) salt and bitter
(C) bitter and sour (D) sour and sweet
140. The only organic colouring matter which is permitted by PFA for use in certain specified food item such as chewing gum is
- (A) sudan red (B) erythrosine
(C) titanium dioxide (D) magnesium dioxide
141. The presence of metanin yellow in turmeric can be detected by the addition of
- (A) nitric acid (B) hydrochloric acid
(C) sulphuric acid (D) phosphoric acid
142. Soxhlet method is used for
- (A) sodium analysis (B) vitamin analysis
(C) fat analysis (D) starch analysis
143. Father of White Revolution in India is
- (A) Jose Kurien (B) Varghese Kurien
(C) A.K. Antony (D) None of the above
144. Method of separating one species of bacterium by dilution into nutrient agar plates is
- (A) counting (B) dilution counting
(C) pouring (D) eliminating
145. The point at which all organisms of a culture are killed by heat is
- (A) heat mortality point
(B) thermal death point
(C) temperature mortality point
(D) sterilisation point

146. Chemical breakdown caused by anaerobic bacteria is
- (A) putrefaction (B) purification
(C) decomposition (D) synthesis
147. Food products that provide health and medical benefits including prevention and treatment of diseases are
- (A) nutraceuticals (B) prophylactics
(C) chlorophytes (D) co-products
148. Food products produced by transferring, moving, deleting, multiplying of genes are known as
- (A) gene combined products
(B) gene mutilated products
(C) genetically modified products
(D) products of parthenogenesis
149. Thiobarbituric acid (TBA) test is for
- (A) the detection of presence of pesticides in beverages
(B) the determination of quantity of Vitamin C in a given food sample
(C) the detection of rancidity in oil or fat
(D) the determination of α -amylase activity in a dough
150. Excessive consumptions of Khesari Dal causes
- (A) Malnutrition (B) Lathyrism
(C) Beriberi (D) Pellagra



SPACE FOR ROUGH WORK



SPACE FOR ROUGH WORK



SPACE FOR ROUGH WORK



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