



# BIOLOGICAL TECHNIQUES

Shivani

- The term Biotechnology was coined by**
  - Karl Ereky
  - Lederberg and Zinder
  - Kary Mullis
  - Fredrick Griffith
- Gel electrophoresis is used to separate**
  - DNA
  - RNA
  - Proteins
  - DNA, RNA and Proteins
- In which blotting techniques Diethyl Pyrocarbonate (DEPC) water is used as a buffer.**
  - Southern blotting
  - Northern blotting
  - Western blotting
  - Eastern blotting
- The technique used to generate thousands to millions of copies of a particular DNA sequence is**
  - Electrophoresis
  - Centrifugation
  - Polymerase Chain Reaction
  - None of these
- Three-dimensional imaging is obtained through**
  - Fluorescence microscopy
  - Confocal microscopy
  - Electron microscopy
  - All of these
- One of the world's most powerful microscopes is**
  - Atomic force microscopy
  - Stereo microscope
  - Light microscope
  - Transmission microscope
- When was the first spectrometer invented?**
  - 1858
  - 1859
  - 1992
  - 1785
- Taqman probe is used in**
  - Nested pcr
  - Arbitrary primed pcr
  - RT pcr
  - Real time pcr
- Collection of microscopic DNA spots attached to a solid surface is known as**
  - Protein microarray
  - Antibody microarray
  - Tissue microarray
  - DNA microarray
- During acceleration which of the rotors swings out to a horizontal position?**
  - Vertical tube rotors
  - Swinging bucket rotors
  - Fixed angle rotors
  - None of these
- The pore size of 1% agarose gel has been estimated from**
  - 100-500 nm
  - 10-60 nm
  - 300-700 nm
  - 500-1000 nm
- In this procedure, the components of a mixture are separated according to their size, shape and density**
  - Ultracentrifuge
  - Zonal centrifuge
  - Density gradient centrifuge
  - Differential centrifuge
- How much percentage of gel is used for a standard electrophoresis?**
  - 0.8%
  - 2%
  - 1%
  - All of these
- Which technology is employed in cell counting, cell sorting and biomarker detection?**
  - FRET
  - Flow cytometry
  - Autoradiography
  - None of these
- Which test uses antibodies and colour change to identify a substance?**
  - ELISA
  - Immunodiffusion
  - Immunofluorescence
  - RIA
- Random primers are used in**
  - AFLP
  - RFLP
  - RAPD
  - SSR
- Two main groups of materials that are mainly used to prepare ion exchange resins**
  - Polystyrene
  - Cellulose
  - Polystyrene and cellulose
  - None of these
- Protein secondary structure is determined by**
  - Circular dichroism
  - NMR
  - Both (a) and (b)
  - Crystallography

**Answers:**

- 1) a 2) d 3) b 4) c 5) b 6) a 7) b 8) d 9) d  
10) b 11) a 12) d 13) c 14) b 15) a 16) c 17) c 18) a

Contributed by Ms Shivani, Research Intern, International & Popular Science Division, CSIR-National Institute of Science Communication and Information Resources

# MILK CHEMISTRY

Tanmay Hazra, Ashvinkumar. S. Hariyani, Sudheendra CH.V.K, Parmar Manish Kumar Pratapsinh

- 1. Unique fatty acid in milk is \_\_\_\_\_**
  - a) Butyric acid
  - b) Caproic acid
  - c) Oleic acid
  - d) Lactic acid
- 2. Unique protein in milk is \_\_\_\_\_**
  - a) Casein
  - b) Whey Protein
  - c) Zein
  - d) Albumin
- 3. Milk sugar is known as \_\_\_\_\_**
  - a) Glucose
  - b) Sucrose
  - c) Galactose
  - d) Lactose
- 4. Most variable component of milk is \_\_\_\_\_**
  - a) Protein
  - b) Lactose
  - c) Fat
  - d) Mineral
- 5. Lactose is highest in \_\_\_\_\_ milk.**
  - a) Cow
  - b) Buffalo
  - c) Human
  - d) Goat
- 6. \_\_\_\_\_ milk is ideal substitute of human milk.**
  - a) Cow
  - b) Goat
  - c) Donkey
  - d) A and B both
- 7. Milk allergy in children is due to \_\_\_\_\_ and \_\_\_\_\_**
  - a) Lactose, Fat
  - b) Lactose, Whey protein
  - c) Casein, Whey protein
  - d) None of these
- 8. Highest fat in \_\_\_\_\_ milk.**
  - a) Cow
  - b) Buffalo
  - c) Hooded seal
  - d) Goat
- 9. Highest protein in \_\_\_\_\_ milk.**
  - a) Cow
  - b) Goat
  - c) camel
  - d) Buffalo
- 10. Lactose is a disaccharide consisting of \_\_\_\_\_ & \_\_\_\_\_**
  - a) Glucose & Galactose
  - b) Glucose & Sucrose
  - c) Fructose & Galactose
  - d) Glucose & Fructose
- 11. Highest amount of fatty acid present in milk is \_\_\_\_\_ (acid)**
  - a) Oleic
  - b) Butyric
  - c) Lactic
  - d) None of these
- 12. Yellow colour of cow milk is due to \_\_\_\_\_.**
  - a) Beta-Carotenoids
  - b) Bilirubin
  - c) Chlorophyll
  - d) Riboflavin
- 13. Homogenization process is used for \_\_\_\_\_**
  - a) Milk sampling
  - b) Milk fat globule size reducing
  - c) Milk boiling
  - d) None of these
- 14. Red protein in milk is called \_\_\_\_\_**
  - a) Casein
  - b) Immunoglobulin
  - c) Lactoferrin
  - d) Globulin
- 15. Highest macro-element present in cow milk \_\_\_\_\_**
  - a) Calcium
  - b) Potassium
  - c) Chloride
  - d) Phosphate

## Answers:

1) a 2) a 3) d 4) c 5) c 6) d 7) b 8) c 9) d 10) a  
11) a 12) a 13) b 14) c 15) b

Contributed by Tanmay Hazra, Ashvinkumar S. Hariyani, Sudheendra CH.V.K, Parmar Manish Kumar Pratapsinh, Assistant Professor, College of Dairy Science, Kamdhenu University, Amreli, Gujarat-365601; Email: tanmayhazra08@gmail.com