1. Which of the following is an anionic dye?
   a) Crystal violet       b) Methylene blue
   c) Malachite green     d) Acid fuchsin

2. The class of stains used to detect, locate and isolate specific parts, such as flagella or endospores, are referred to as:
   a) Specialised stains  b) Simple stains
   c) Differential stains d) Acid-fast stains

3. In Gram staining, the Gram's decolourizer is a mixture of:
   a) Acetone and acetic acid  b) Ethanol and acetone
   c) Iodine and ethanol      d) Water and ethanol

4. The acid-fast differential staining technique used to stain members of the genus *Mycobacterium* is called:
   a) H & E staining  b) Pap staining
   c) Ziehl-Neelsen staining d) Conklin's staining

5. Which of the following stains is used to selectively confer a blue colour to dead tissues by 'Dye exclusion method'?
   a) Trypan blue       b) Malachite green
   c) Crystal violet    d) Coomassie blue

6. Eosin, an anionic dye that stains Eosinophilic compounds, is rich in which amino acids?
   a) Aspartate and glutamate  b) Tyrosine and valine
   c) Lysine and arginine      d) Lysine and aspartate

7. A fluorescent dye, that intercalates DNA, widely used to view DNA bands in gel electrophoresis and also used as a marker for studying apoptosis in a cell population is:
   a) Acridine Orange        b) Acid fuchsin
   c) Hematoxylin            d) Ethidium Bromide

8. A basic dye – Janus Green B – a vital biological stain that indicates and changes colour depending upon the amount of oxygen available, is used to stain which cell organelle?
   a) Mitochondria             b) Nucleus
   c) Chloroplast              d) Lysosomes

9. This dye not only plays a key role in the histopathological diagnosis of malaria, but is also used to stain chromosomes to give the characteristic G-Banding and to detect various chromosomal abnormalities.
   a) Rhodamine                b) Osmium tetroxide
   c) Janus Green B            d) Giemsa stain

10. A staining technique used for the screening and detection of potential cancer-causing agents in the cervical region:
    a) Papanicolaou staining
    b) PAS staining
    c) Masson's trichrome
    d) Romanowsky staining

11. The most extensively used method to stain endospores, where malachite green is used as the primary stain and safranin is used as the counter stain, is:
    a) Schaeffer-Fulton staining
    b) Ziehl-Neelsen staining
    c) Moeller staining
    d) Kinyoun method

12. A modification of Romanowsky stain that differentially stains various types of blood cells and is used to determine wide range of infections based on the differential WBCs count:
    a) Jenner's stain            b) Leishman stain
    c) May-Grunwald stain        d) Wright's stain

13. A histological stain used to stain nervous tissues particularly the nissl's bodies in the cytoplasm as violet:
    a) Crystal violet           b) Cresyl violet
    c) Methylene blue           d) Carmine

14. A cationic dye used to stain RNA in northern blotting so as to ascertain the amount of nucleic acid present is:
    a) Crystal violet           b) Cresyl violet
    c) Methylene blue           d) Janus Green B

15. Osmium tetroxide, a dye used in transmission electron microscopy that gets reduced to a black substance, stains:
    a) Carbohydrates            b) Collagen
    c) Lipids                   d) Proteins

**Answers**

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

*Contributed by Gunjan Kansal who is pursuing M.Sc. Life Sciences from Jawaharlal Nehru University, New Delhi; Email: gunjankansal13@gmail.com*
**Fluids of Our Body**

1. **Hyaluronan and Lubricin** are the two major constituents of:
   a) Synovial fluid
   b) Lymphatic fluid
   c) Cerebrospinal fluid
   d) Amniotic fluid

2. "Phlegm" is a specialised term for mucus that is restricted to the ______ tract.
   a) Urinary
   b) Respiratory
   c) Gastrointestinal
   d) Lower digestive

3. Which extracellular fluid of our body is also known as Cotunnus’ liquid?
   a) Interstitial fluid
   b) Blood
   c) Endolymph
   d) Perilymph

4. Most WBC’s are produced in our bone marrow. The rest WBC’s are produced in the:
   a) Parathyroid gland
   b) Pineal gland
   c) Thymus gland
   d) Pancreas

5. Bogorad’s Syndrome is a condition that causes the sufferers to shed tears while:
   a) Moving fast
   b) Consuming food
   c) Sleeping
   d) Talking

6. Our blood platelets have a normal lifespan of:
   a) 20–22 days
   b) 13–15 days
   c) 9–10 days
   d) 3–5 days

7. The aqueous humour of human eye is normally ______ mm Hg above the atmospheric pressure.
   a) 5
   b) 15
   c) 25
   d) 30

8. Which fluid of human body is also called "Cameron’s fluid)?
   a) Amniotic fluid
   b) Bile
   c) Aqueous humour
   d) Sweat

9. The milky white lymph formed in the human digestive system (i.e. Chyle) is rich in:
   a) Monoglycerides
   b) Diglycerides
   c) Triglycerides
   d) Glycols

10. The normal pH of the gastric acid found in the human stomach lumen is:
    a) 1.5–3.5
    b) 3.5–4.5
    c) 4.5–5.5
    d) 3.0–6.0

11. Which of the following is not a constituent of our gastric juice?
    a) HCl
    b) KCl
    c) NaCl
    d) KOH

12. The stored bile in our gall bladder is discharged into:
    a) Stomach
    b) Duodenum
    c) Jejunum
    d) Ileum

13. Saliva, stimulated by the sympathetic nervous system of our body, facilitates:
    a) Blood circulation
    b) Lymph peristalsis
    c) Respiration
    d) Digestion

14. About 60–70% of our body’s water is present in the form of:
    a) Lymph
    b) Blood
    c) Interstitial fluid
    d) Intracellular fluid

15. The major cationic component of Scarpa’s fluid (or Endolymph), located in the cochlear duct, is:
    a) Sodium ion
    b) Potassium ion
    c) Hydrogen ion
    d) Calcium ion

16. In the urine of a healthy person, the colour comes primarily from the presence of:
    a) Urease
    b) Uroerythrin
    c) Urobilinogen
    d) Urobilin

17. Polyuria is a condition when the production of urine in a person exceeds upto:
    a) 2.5–3.0 l/day
    b) 2.0–2.5 l/day
    c) 1.5–2.0 l/day
    d) 1.0–1.5 l/day

18. The condition of black or dark coloured urine is termed as:
    a) Beeturia
    b) Oliguria
    c) Melanuria
    d) Anuria

19. Which of the following enzymes is not found in our saliva?
    a) Ptyalin
    b) Lingual lipase
    c) Kallikrein
    d) Sucrase

20. Mucus fluid of our body is rich in:
    a) Phosphoproteins
    b) Glycoproteins
    c) Metalloproteins
    d) Nucleoproteins

<table>
<thead>
<tr>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) a</td>
</tr>
<tr>
<td>2) b</td>
</tr>
<tr>
<td>3) d</td>
</tr>
<tr>
<td>4) c</td>
</tr>
<tr>
<td>5) b</td>
</tr>
<tr>
<td>6) c</td>
</tr>
<tr>
<td>7) b</td>
</tr>
<tr>
<td>8) a</td>
</tr>
<tr>
<td>9) c</td>
</tr>
<tr>
<td>10) a</td>
</tr>
<tr>
<td>11) d</td>
</tr>
<tr>
<td>12) b</td>
</tr>
<tr>
<td>13) c</td>
</tr>
<tr>
<td>14) d</td>
</tr>
<tr>
<td>15) b</td>
</tr>
<tr>
<td>16) d</td>
</tr>
<tr>
<td>17) a</td>
</tr>
<tr>
<td>18) c</td>
</tr>
<tr>
<td>19) d</td>
</tr>
<tr>
<td>20) b</td>
</tr>
</tbody>
</table>

Contributed by Banarasi Tiwari, Retd. Principal; Address: 295, Lath No. 2, Hanumanpur, At & PO–Mughalsarai, District–Chandauli, (U.P.)–232101; Email: banarastiwari123@gmail.com