

**SANI NANA FATIMA**

**18/SCI05/010**

**MEDICAL LABORATORY SCIENCES**

**MLS 202 ASSIGNMENT.**

**1. Write on the purpose of fixation**

**2. List 5 compound fixatives and composition.**

1. The purpose of fixation is to preserve tissues permanently in as life-like a state as possible. Fixation should be carried out as soon as possible after removal of the tissues (in the case of surgical pathology) or soon after death (with autopsy) to prevent autolysis. There is no perfect fixative, though formaldehyde comes the closest. Therefore, a variety of fixatives are available for use, depending on the type of tissue present and features to be demonstrated.

2. Compound Fixatives.

a. Microanatomical fixatives;

These are used to preserve the anatomy of the tissue.

- 10% formal saline
- Ideal for fixation of brain
- Buffered formaline;

b. Cytological Fixatives

Nuclear fixatives:

Carnoy's fluid

Newcomers fluid

Flemming's fluid

c. Histochemical Fixatives:

Formal Saline

Cold acetone

Absolute alcohol

**Compound of Fixatives;**

1- Formalin Solution (10% unbuffered):

Formaldehyde (37-40%)-10ml

Distilled Water- 90 ml .Mix well

2- Formalin Solution (10%, buffered neutral):

Formaldehyde (37-40%) -100ml

Distilled water- 900ml

NaH<sub>2</sub>PO<sub>4</sub>- 4.0g

Na<sub>2</sub>HPO<sub>4</sub> (anhydrous)- 6.5g

Mix to dissolve.

3- Zenker's Solution – fixation time 4-24 hours.

Distilled water- 950ml

Potassium dichromate- 25g

Mercuric Chloride – 50g

Glacial acetic acid -50g

Fixed tissue should be washed overnight in running tap water before processing.

4- Bouin's fluid- fixation time- 6 hours.

Saturated aqueous solution of picric acid- 75ml.

Formalin (→ 40% aqueous solution of formaldehyde)- 25ml

Glacial acetic acid -5ml

Fixed tissue should be transferred to 70% alcohol.

5- Champy's fluid- fixation time 12-24 hours.

Methanol, absolute- 60.0ml

Chloroform- 30.0ml

Glacial acetic Acid- 10.0ml