ANNEX D (Revised2015)

EXAMINATION FOR CYTOTECHNOLOGISTS

Basic qualification and experience in M.Sc. Medical Lab. Technology with **Cytology laboratory** cytology as special subject.

OR

B.Sc. Medical Lab. Technology with experience in Cytology for two years

OR

5 yrs. experience in cytology as Lab. Technician following diploma in M.L.T.

OR

5 yrs. experience in cytology as Lab. Technician following passing the cytotechnician's examination conducted by IAC.

1. **Schedule of examination**

i) Examination should consist of **theory, practical & viva-voce**

ii) **Theory paper (100 marks):** Should have 40 MCQs (40 marks); 5 matching type question (20 marks) and 8 short answer questions (40 marks) (duration 3 hours)

iii) Distribution of **theory questions** should be as follows:

Basic cytology 10%

Gynaecological cytology 40%

Non-gynaecological cytology

Including FNAC 40%

Techniques 10%

iv) **Practical: 100 marks**

Practical:

1. Screening of 10 cases and reporting (10x4=40)

v) 5 - Gynae cytology

vi) 3-Non gynae cytology

vii) 2-FNA

2. One practical exercise (10)

3. Ten objective structure practical examination station - to include immunocytochemsitry etc. (10x2=20)

4. Diagnosis on 2x21 projection slides / power point slides (10x1=10)

Total marks : 80

5. Viva 20

Total marks : 100

viii) A candidate has to pass separately in theory and practical + viva voce. A candidate must secure at least 50% in each.

2. Certificate A certificate will be issued to successful candidates.

3. Time of examination Around September / October of every year

4. Fees ₹1000/- (by a bank draft drawn in favour of Treasurer, Indian Academy of Cytology)

COURSE FOR CYTOTECHNOLOGISTS

I) **Basic concepts**

a) The use of microscope, screening techniques.

b) Preparation techniques in cytology (including centrifuge, cytospin, LBC, millipore etc).

Principles of LBC

Flow cytometry

FISH

c) Normal histology and cytology of epithelial and connective tissues.

d) The normal cell structure and function.

II) **a) Female genital Tract**

Techniques of collection of various specimens. Must know the cervical cancer screening programme

(i) **b) Hormonal cytology**

i) Anatomy, structure and physiology of female genital tract.

ii) Correlation of structure of female genital tract and ovarian hormones.

iii) Various cytological indices.

iv) Cytology from birth to menarche

v) Hormonal cytology of menstrual cycle (ovulatory and anovulatory)

vi) Cytology of normal and abnormal pregnancy

vii) Cytology of menopause.

c) Cervical malignancy

d) Classification of cervical smear and characteristics of normal, inflammatory, dysplasia (mild, moderate and severe), carcinoma-in-situ, squamous cell carcinoma.

e) Bethesda classification

f) Cytology of adenocarcinoma of endocervix.

g) Characteristics of radiation changes in cells.

h) Endometrial malignancy Cytology of normal, hyperplasia and adenocarcinoma

i) Miscellaneous Ovarian carcinoma etc.

III) **Respiratory Tract**

a) Anatomy, histology, physiology and normal cytology of the respiratory tract.

b) Collection, selection of material and making smears.

c) Cytology of various types of bronchogenic carcinoma.

d) Including immunocytochemistry and cell block preparation & FISH

IV) **Urinary Tract**

a) Anatomy, histology and physiology of the urinary system.

b) Collection and preparation of specimen.

c) Characteristics of normal and malignant cytology.

V) **Effusions and the C.S.F.**

a) Anatomy, histology and normal cytology of the serous cavities.

b) Collection and preparation of fluid for cytological examination by cytospin method, LBC.

c) Cytological features of non malignant and malignant effusions.

d) Collection and preparation of CSF samples.

e) Cytological finding in CSF examination.

VI) **Fine needle aspiration cytology**

a) Utility of fine needle aspiration cytology / Fine needle capillary sampling. (Non-aspiration method)

b) Collection and preparation of specimen.

c) The breast anatomy histology and relevant pathology.

d) Cytological features of aspirates and nipple discharge.

e) Principles of FNA lymph nodes and thyroid.

f) Ancillary techniques applied to FNAC

g) Cell block preparation

h) Flow cytometry and its applications

VII) **Introduction to cytogenetics**

a) Routine sex chromatin examination.

b) Lymphocytic culture, Karyotyping interpretation

c) Culture of malignant cell in effusion, karyotyping and interpretation. PCR RT-PCR, FISH, Gene Sequencing etc

VIII) **Introduction to immunocytochemistry Interpretation, application and staining methods**

Preparation of cytological material

IX) **Laboratory organisation**

Cytology reporting, record keeping, follow-up procedure and data processing, automation and biosafety procedures.