

Instructions:

All Questions in Section I carry equal marks

Attempt any THREE questions in Section I

Question IX in Section II is COMPULSORY

Illustrate your answers with neat and labeled diagram wherever necessary

Section I

- Q-I A Describe banding method used to study satellite association of chromosomes. 7
B Write a principle and explain in detail manual FISH protocol. 7
- Q-II A Describe a banding method used to study Y chromosome abnormality. 7
B Write a note on types of probes and its uses in fluorescence in situ hybridization. 7
- Q-III A Describe a method opposite to G banding technique. 7
B Describe principle, workflow, and applications of formalin fixed paraffin embedded FISH. 7
- Q-IV A Write a short note on clinical significance and technical considerations of different banding methods. 7
B Write a note on advantages and limitation of fluorescence in situ hybridization. 7
- Q-V A Describe favorable risk group abnormalities in Acute Myeloid Leukemia. 7
B Define chemical safety. Write in detail about the categories of chemicals with examples. 7
- Q-VI A Describe masked Philadelphia/variant Philadelphia with one example. 7
B Explain stages and types of biomedical waste disposal in detail. 7
- Q-VII A Describe the mode of action Imatinib/Gleevac in Chronic Myeloid Leukemia patients. 7
B Describe the variables affecting laboratory testing during the pre and post analytical phases. 7
- Q-VIII A Describe secondary changes in inv(16) positive Acute Myeloid Leukemia. 7
B Which institute provide regulations for Laboratories? Describe any three factors of management requirement in NABL-accredited laboratory. 7

P.T. O

Q-IX Multiple Choice Questions

A Who developed GTG banding method?

- a Zeiss
- b Gustav Giemsa
- c T Caspersson
- d Cascade

B DAPI/Distamycin A fluorescent staining technique was first described by_____.

- a Gustav Giemsa
- b Schweizer
- c Peter Nowell
- d Tijo

C Which of the following is a probe labeling technique?

- a FISH
- b Nick translation
- c FFPE FISH
- d Gel electrophoresis

D M-FISH can be used for detection of chromosomal rearrangements like_____.

- a Duplications
- b Deletions
- c Inversions
- d Translocation

E The difference between excitation maximum and emission maximum is called_____.

- a Filter range
- b Exciter
- c Wavelength range
- d Stokes shift

F Variants of t(16;16) is_____.

- a t(9;11)(p23;q23)
- b t(3;16)(q21;q22)
- c t(10;11)(p12;q23)
- d t(11;19)(q23;p13.3)

G In_____equipment, a microtome cuts the tissue at a low temperature and preserve frozen tissue samples.

- a Lyophilizer
- b Cryostat
- c Homogenizer
- d Sonicator

H Combustible liquids have a flashpoint at or above 37.8°C and below_____.

- a 93.3°C
- b 94.4°C
- c 95°C
- d 96.5°C

X