

Questions and Answer key of the written examination held on 28.02.2016 for the post of Cytotechnologist in Regional Cancer Centre, Thiruvananthapuram

Directions (Qn. 1 to 60) : Choose the best alternatives.

1. Father of a modern pathology is
 - a. **Rudolf Virchow**
 - b. Robert Hooke
 - c. Lionel Beale
 - d. Leeuwenhoek
2. Following are examples of exfoliative cytology EXCEPT.
 - a. Vaginal Smear
 - b. **Thyroid aspiration cytology**
 - c. Sputum cytology
 - d. Urine cytology
3. Power-house of the cell
 - a. Golgi apparatus
 - b. Ribosomes
 - c. **Mitochondria**
 - d. Lysosomes
4. Q- banding of chromosome makes use of following stain
 - a. Giemsa
 - b. Quick-diff
 - c. Quinidine
 - d. **Quinacrine**
5. Ideal cytologic fixative is
 - a. 95% ethanol
 - b. **equal parts of ether & 95% ethanol**
 - c. equal parts of ether & 95% methanol
 - d. 95% methanol
6. The cell body of nerve cell is called
 - a. **Cyton**
 - b. Neuron
 - c. Axon
 - d. Dendrites
7. Chromosomal abnormality in Down's syndrome
 - a. Trisomy 12
 - b. **Trisomy 21**
 - c. Trisomy 13
 - d. Trisomy 18
8. Ideal fixative for bloody specimens
 - a. Diaphane fixative
 - b. Cardowax fixative
 - c. **Carnoy's fixative**
 - d. Formalin vapour fixation
9. Episomes are
 - a. **Gene fragments**
 - b. RNA fragments
 - c. Mitochondrial fragments
 - d. Lysosomal fragments
10. The gene known as guardian of human genome is
 - a. myc gene
 - b. ras gene
 - c. **p53 gene**
 - d. brca gene

11. The fixative commonly used in histopathology for surgical specimen is
- a. 40% formalin
 - b. Bouin's solution
 - c. Zenker's solution
 - d. 10% formalin**
12. The most specific stain for demonstration of amyloid is
- a. Methyl violet with metachromasia
 - b. Thioflavin S
 - c. Congored with polarized light**
 - d. Methyl green pyronine
13. Special stain for demonstration of fat in tissue is
- a. PAS
 - b. Reticulin
 - c. Sudan IV**
 - d. Van geison
14. Stain used for demonstration of Haemosiderin is
- a. PAS
 - b. Masson - Fontana
 - c. Perl's Prussian blue**
 - d. Masson's trichrome
15. Which of the following do not belong to a group
- a. Peroxidase**
 - b. Mercuric Oxide
 - c. Sodium Iodate
 - d. Potassium permanganate
16. Mayer's egg albumin is used for
- a. coating fixative
 - b. coating adhesive**
 - c. clearing agent
 - d. mounting media
17. Cell adhesive used in slides used for immunocytochemistry
- a. Gelatin chrome alum
 - b. Poly-L-Lysine**
 - c. Poly ethylene glycol
 - d. Poly propyl butanol
18. For cytohormonal assessment, ideal sample taken is from
- a. Upper lateral vaginal wall smear
 - b. Posterior vaginal pool smear**
 - c. Endocervical smear
 - d. Medical vaginal wall smear
19. PAP smear study is done primarily as
- a. screening test**
 - b. diagnostic test
 - c. confirmatory test
 - d. none of the above
20. Most frequent Human Papilloma Virus (HPV) associated strains in squamous cell carcinoma cervix are
- a. HPV type 16 and 18**
 - b. HPV type 11 and 16
 - c. HPV type 6 and 11
 - d. HPV type 40 and 42

21. The findings of “mosaic” or “punctuation” changes in colposcopy is indicative of
 - a. visible keratinisation
 - b. visible vascular changes**
 - c. visible cell lysis
 - d. cell death
22. Schiller’s iodine test stains normal squamous epithelium brown due to presence of
 - a. eostrogen
 - b. proteins
 - c. glycogen**
 - d. progesterone
23. Glycogen is best demonstrated by
 - a. Methenamine silver
 - b. PAS**
 - c. Vankossa
 - d. Orcein
24. Karyotyping requires one of the following
 - a. Colchicine**
 - b. Quinidine
 - c. Quinacrine
 - d. Aniline
25. The magnification power of light microscope
 - a. equal to power of eyelens divided by power of objective lens
 - b. equal to power of eyelens multiplied by power of objective lens**
 - c. equal to power of eyelens plus the power of objective lens
 - d. is defined as ability to resolve small objects
26. Advantage of frozen sections over paraffin sections
 - a. better quality section
 - b. serial sections can be obtained
 - c. cheaper
 - d. faster than paraffin sections**
27. One of the following are TRUE about smooth Endoplasmic reticulum
 - a. responsible for energy production
 - b. have ribosomes attached to it
 - c. consist of microtubules
 - d. characterised by tubular cisternae**
28. Which of the following is normally unstained in H & E?
 - a. collagen
 - b. hyaline
 - c. fat**
 - d. calcium
29. The following are true about Mongolism EXCEPT
 - a. characterised by mental retardation
 - b. occur due to non dysjunction
 - c. abnormality in sex chromosome**
 - d. is a numerical chromosome aberration
30. One thousand micrometer is equivalent to
 - a. 10 mm
 - b. 1 mm**
 - c. 100 mm
 - d. 1 cm
31. DNA is composed of
 - a. ribose, phosphorus and base
 - b. phosphoric acid and base
 - c. base phosphate and deoxyribose**
 - d. histones, phosphates and base

32. Limit of resolution of electron microscope
a. 3 nm b. 2 nm **c. 0.1 nm** d. 10 nm
33. Special stain done in urine sediments in suspected case of fat embolism is
a. sudan III b. oil red O **c. both a & b** d. methyl green pyronine
34. A feature of malignant neoplastic cells which show marked variation in shape and size of individual cell and cell nuclei
a. metachromasia b. high nuclear cytoplasmic ratio
c. pleomorphism d. metachromasia
35. The application of extreme cold to destroy abnormal or diseased tissue is called
a. cone biopsy b. cold coagulation
c. cryocautery d. laser therapy
36. All of the following features are helpful in diagnosing dysplasia EXCEPT
a. prominent nucleolus b. nuclear enlargement
c. nuclear hyperchromasia d. coarse, clumped chromatin
37. A Vaccine against HPV
a. Gardasil b. Gardinera c. Cervarix **d. Both a & c**
38. FISH is a technique to detect
a. RNA sequence b. DNA sequence
c. Both a & b d. None of these
39. The probes used in in-situ hybridisation are all EXCEPT
a. oligonucleotide probes b. single stranded DNA probe
c. double stranded DNA probe **d. viral probes**
40. Thin-prep test is a
a. cell block technique **b. liquid based cytology technique**
c. scrap technique d. none of the above
41. All are natural dyes EXCEPT
a. Saffron b. Haematoxylin c. Orcein **d. Eosin**
42. Most commonly used type of eosin
a. Eosin Y b. Eosin B c. Eosin A d. Eosin C

43. Optimum pH for eosin is
a. 4.5 - 5 **b. 5.4 – 5.6** c. 6.3 - 7 d. 5 – 8
44. Eosin is widely used as an aqueous or alcoholic solution with concentration
a. 0.5 – 1% b. 0.1 -0.5% c. 5 – 10% d. 1-2%
45. In secretory phase of menstrual cycle which cells predominate in cervical smear
a. Superficial squamous cell b. Endometrial cells
c. Intermediate squamous cell d. Parabasal cells
46. Shift to right of maturation index in hormonal cytology indicates
a. Eostrogen effect b. Progesterone effect
c. LH effect d. None of these
47. The hormone which causes rapture of ovarian follicles and ovulation is
a. FSH **b. LH** c. GH d. TSH
48. Clue cells in PAP smear are seen associated with
a. Candida vaginitis b. Trichomonas vaginalis
c. Gardenerella vaginalis d. Doder lein's bacillus
49. Intranuclear intusions of "Cowdry type" are seen in PAP smears in
a. Candida infection b. Actenomycosis
c. Leptothrix infection **d. Herpes simplex infection**
50. Which stain is used for recognition of eosinophiluria?
a. Wrights b. Giemsa c. Hansels **d. All of the above**
51. An undifferentiated malignant tumour on immunohistochemical stain shows cytoplasmic positivity of tumour cells for cytokeratin. The most probable diagnosis is
a. Sarcoma **b. Carcinoma** c. Lymphoma d. Melanoma
52. Metaplasia is defined as
a. increase in cell size and functional activity
b. increase in cell number
c. increased uncontrolled cell proliferation
d. replacement of one mature type of cell with another mature cell type

53. Risk factors for cervical cancer are all EXCEPT
- a. early onset of sexual activity
 - b. multiple sexual partners
 - c. oral contraceptives
 - d. **multiple child births**
54. Which of the cytologic features of malignant cells is most important in distinguishing between benign from malignant lesions?
- a. nucleolar enlargement
 - b. **decreased cohesion**
 - c. nuclear hyperchromasia
 - d. nuclear enlargement
55. Barr body is
- a. Inactivated ribosomes
 - b. Inactivated Y chromosome
 - c. **Inactivated X Chromosome**
 - d. Both a & c
56. All the following occur in cell injury except
- a. ATP depletion
 - b. Pottassium influx
 - c. **Calcium influx**
 - d. Anaerobic glycolysis
57. Pre fixation is used for
- a. Specimen collection for DNA analysis
 - b. Specimen Collection for HPV detection
 - c. **Preservation of morphology of cells in fluid specimens**
 - d. Preservation of genetic material of cells
58. Phase contrast microscopy is used for visualising cells
- a. under dark fields
 - b. under ultra violet light
 - c. **in tissue culture**
 - d. of ultrathin sections
59. The process of pinocytosis means
- a. cell engulfing bacteria
 - b. **cell engulfing fluid**
 - c. cell engulfing solids
 - d. cell excreting fluid
60. The largest cells are typically found in
- a. **LSIL**
 - b. HSIL
 - c. Squamous cell carcinoma
 - d. Adenocarcinoma

Directions (Qn. 61 to 64) : Pickout the nearest correct meaning or synonym of the words given below.

61. HARMONY
a. cemetery b. ceremony c. **symmetry** d. hierarchy
62. ADVICE
a. council **b. counsel** c. practice d. proposal
63. FACULTY
a. privilege b. desire c. branch **d. ability**
64. ANNEX
a. add b. low c. copy d. initial

Directions (Qn. 65 to 67) : Choose the option which contains a pair of words related to each other in the same way as the pair given in capital letters.

65. TORCH : LIBERTY
a. Laws : Courts **b. Scales : Justice**
c. Balance : Equity d. Weights : Measure
66. MONEY: BANK
a. Fear : Tremble **b. Arrows : Quiver**
c. Sound : Music d. Coin : Mint
67. KING: CROWN
a. **Priest : Mitre** b. Soldier : Gun
c. Teacher : Chalk d. Sculptor : Chisel

Directions (Qn. 68 to 70) : In the given sentences, a part of the sentences is underlined. Beneath each sentences, four different ways of phrasing the underlined part are indicated. Choose the best alternative.

68. We want the teacher to be him who has the best rapport with the students.
a. **We want the teacher to be he** b. We want him to be the teacher
c. We desire the teacher to be him d. We anticipate the teacher to be him

69. Anyone interested in the use of computer can learn much if you have access to a state-of-the-art microcomputer.

- | | |
|-------------------------------|------------------------------|
| a. if he has access to | b. if access is available to |
| c. by access to | d. from access to |

70. Today this is a totally different world than we have seen in the last decade.

- | | |
|----------------------|----------------------------------|
| a. than what we seen | b. then we have seen |
| c. from what we seen | d. from what we have seen |

Directions (Qn. 71 and 72) : In each of the following questions, there is a certain relationship between two given words on one side of :: and one word is given on another side of :: while another word is to be found from the given alternatives, having the same relation with this word as the words of the given pair bear. Choose the correct alternative.

71. Genuine : Authentic :: Mirage: ?

- | | | | |
|----------|------------------|---------------|--------------------|
| a. Image | b. Transpiration | c. Reflection | d. Illusion |
|----------|------------------|---------------|--------------------|

72. Bread : Yeast :: Curd: ?

- | | | | |
|----------|--------------------|----------|----------|
| a. Fungi | b. Bacteria | c. Germs | d. Virus |
|----------|--------------------|----------|----------|

Directions (Qn. 73 and 74) : In each of the following questions, one term in the number series is wrong. Find out the wrong term.

73. 380, 188, 92, 48, 20, 8, 2

- | | | | |
|--------|-------|--------------|-------|
| a. 188 | b. 92 | c. 48 | d. 20 |
|--------|-------|--------------|-------|

74. 56, 72, 90, 110, 132, 150

- | | | | |
|-------|-------|--------|---------------|
| a. 72 | b. 90 | c. 110 | d. 150 |
|-------|-------|--------|---------------|

Directions (Qn. 75 to 80) : Choose the best alternatives.

75. In a certain code, '256' means 'you are good'; '637' means 'we are bad' and '358' means 'good and bad'. Which of the following represents 'and' in that code?

- | | | | |
|------|------|-------------|------|
| a. 2 | b. 5 | c. 8 | d. 3 |
|------|------|-------------|------|

76. E is the son of A. D is the son of B. E is married to C. C is B's daughter. How is D related to E?

- | | | | |
|------------|----------|------------------|--------------------------|
| a. Brother | b. Uncle | c. Father-in-law | d. Brother-in-law |
|------------|----------|------------------|--------------------------|

77. Five girls are sitting in a row. Rashi is not adjacent to Sulekha or Abha. Anuradha is not adjacent to Sulekha. Rashi is adjacent to Monika. Monika is at the middle in the row. Then, Anuradha is adjacent to whom out of the following?
- a. **Rashi** b. Sulekha c. Abha d. Monika
78. In a class, ratio of passed to failed students in an exam is 5:1. Amit is 16th from the top and Sujit, who is three ranks below Amit, is 22nd from the bottom among the passed students. If all students in the class had appeared for the exam, what is the strength of the class?
- a. 40 b. 32 c. **48** d. Data Inadequate
79. The sum of the ages of a son and father is 48 years. After 4 years, the age of the father will be 3 times that of the son. What is the age of the son?
- a. 6 b. 18 c. **10** d. None of these
80. Shyam starts walking towards East and after walking 20m, turns southward and walks 10 m and then he turns to his right and walks 30m. In which direction is he now with respect to the starting point?
- a. South b. West c. South-East d. **South-West**

Directions (Qn. 81 and 82): In each of the following questions, four groups of letters are given, Three of them are alike in a certain way while one is different. Select the one which is different.

81. a. **STUA** b. RQPA c. MLKA d. HGFA
82. a. RSXY b. **NOUV** c. MNST d. DEJK

Directions (Qn. 83 to 100) : Choose the best alternatives.

83. A thief steals a car at 1p.m. and drives at 20 km/hr. The theft is discovered at 2 p.m. If the owner sets of another car at 30 km/hr, then he will overtake the thief at:
- a. 2.40 pm b. 3.20 pm c. **4.00 pm** d. 4.20 pm
84. If 15 men and 10 boys can do in one day as much work as 12 men and 20 boys. How much should a man be paid a day if a boy is to get Rs. 10/- a day ?
- a. Rs. 26.77 b. **Rs. 33.33** c. Rs. 45 d. None of these
85. A farmer notices that the area of his farm in sq.mts is equal to 2 times the square of the number of tractors he owns. If one tractor is stolen he has to sell 62 sq.mts of the farm so as to maintain the relationship. Find the total number of tractors he has.
- a. 14 b. 15 c. **16** d. 17

86. Performing 'Sati' by women was declared illegal during the Governor Generalship of :
 a. **William Bentinck**
 c. Canning
 b. Dalhousie
 d. Cornwallis

87. Who was the first Indian to win an individual medal in Olympics?
 a. Milkha Singh
 c. Karnam Malleshwari
 b. P. T. Usha
 d. **K. D. Jadhav**

88. How many countries share land boundaries with India?
 a. Five b. Six c. **Seven** d. Nine

89. An ordinance promulgated by the President of India
 a. Has an indefinite life
 b. Effective only if the Lok Sabha is dissolved
 c. **Must be laid before the Parliament when it meets**
 d. is a parallel power of legislation available to the president even when the Parliament is in session

90. Council of ministers has to resign if it loses the confidence of :
 a. Parliament
 c. Rajya sabha
 b. Either House of Parliament
 d. **Lok Sabha**

91. Which of the following was awarded Noble Peace for three times?
 a. Human Rights Council
 c. **International Committee of the Red Cross**
 b. World Bank
 d. UN peacekeeping forces

92. Which of the countries represent letter 'C' in the category known as BRIC Countries?
 a. Canada b. Chile c. Cuba d. **China**

93. A solar eclipse is caused when the
 a. Sun comes between the earth and the moon
 b. moon comes between the sun and the earth
 c. **earth comes between the sun and the moon**
 d. none of these

94. Chinese currency Yuan was in news during the last week of December 2015. Yuan is also known as:
 a. **Renminbi**
 b. Abbasi c. Toman d. Pataca

95. The rate at which banks borrow rupees from RBI is
- a. **Repo rate** b. Reverse Repo rate
c. Bank rate d. Simple interest rate
96. Who started the first newspaper in India?
- a. Dadabhai Naoroji b. Sir Syed Ahemed Khan
c. **James Hickey** d. Raveendra Nath Tagore
97. The Olympic games are normally held at an interval of
- a. 2 years b. 3years c. **4 years** d. 5 years
98. Which metal is used for generation of Nuclear Energy by Nuclear power plants?
- a. Zinc b. Platinum c. **Uranium** d. Nickel
99. The country which has no income tax
- a. Nepal b. Afganistan c. China d. **United Arab Emirates**
100. Where is Harappa situated, according to the present map?
- a. India b. Afganistan c. **Pakistan** d. China