St. JOSEPH'S COLLEGE (AUTONOMOUS) TIRUCHIRAPPALLI – 620 002

SEMESTER EXAMINATIONS – APRIL 2015

TIME: 40 Minutes   **MAXIMUM MARKS: 30**

SEM	SET	PAPER CODE	TITLE OF THE PAPER
II	2014	14PBC2202B	MOLECULAR DIAGNOSTICS

SECTION - A

Answer all the questions: **30 × 1 = 30**

Choose the correct answer:

1. Which one of the following is not a genetic disease?
   a) Cystic fibrosis
   b) spinal muscular atrophy
   c) Haemophilia
   d) Cholera

2. Specific fatty acid chain can be detected by
   a) electrophoresis
   b) PCR
   c) chromatography
   d) Nucleic acid hybridization

3. Carrier erythrocytes help in carrying _____ molecules.
   a) carbohydrates
   b) enzymes
   c) drugs
   d) vitamin

4. The inheritance of Duchenne muscular dystrophy is
   a) X-linked recessive
   b) X-linked dominant
   c) Autosomal dominant
   d) Autosomal recessive

5. The elevation of _____ suggest prostate cancer
   a) Prostate specific antigen
   b) Reelin
   c) Factor X
   d) Plasmin

6. In B-cell chronic lymphocytic leukemia, the deletion occur in _____ chromosome band.
   a) 12q 14.3
   b) 13q 14.3
   c) 10p 14.3
   d) 11q 14.3

7. RFLP technique is
   a) used to identify a specific protein
   b) used to identify a specific RNA
   c) used to identify a specific DNA
   d) used to identify both DNA and RNA

8. RAPD is a
   a) DNA sequencing based method
   b) Restriction digestion based method
   c) PCR based method
   d) all of these

9. Which one of the following is not tagged to probe in nucleic acid hybridization
   a) Radioisotope
   b) Digoxigenin
   c) Fluroscent molecular
   d) colouring agent

10. The most common second malegnancy in survivors of retinoblastoma is
    a) Thyroid cancer
    b) Osteosarcoma
    c) optic glioma
    d) Nasopharyngeal carcinoma

11. In suckle cell anemia, _____ type of Haemoglobin is present abundantly.
    a) Hbf
    b) HbA
    c) Hbs
    d) HbC

12. DNA finger printing is based on series of identical DNA sequences called
    a) VNTR
    b) Tandem repeats
    c) palindrome sequence
    d) complementary sequences

13. In hereditary persistence of fetal haemoglobin the mutation occur in
    a) alpha –chain
    b) Both alpha & Beta chain
    c) Beta – chain
    d) γ-chain (gamma chain)

14. Apolipoprotein $\in$ is a major component of a specific type of lipoprotein called _____.
    a) LDL
    b) VLDL
    c) HDL
    d) Chylomicrons

15. The protein C is encoded by PROC gene which is found on chromosome _____.
    a) 5
    b) 21
    c) 2
    d) 10

16. FISH requires
    a) Labeled probe
    b) Deoxynucleotide
    c) DNA polymerase enzyme
    d) all the above

17. Which of the following statement is not correct regarding peptide mapping
    a) To identify the test protein
    b) protein obtained by r-DNA technology is analysed
    c) It can identify single amino acid change
    d) It does not involve enzymatic treatment

18. The best period of gestation to carry out chorion villous biopsy for prenated diagnosis is
    a) 8 – 10 weeks
    b) 10 – 12 weeks
    c) 12 – 14 weeks
    d) 14 – 16 weeks

19. The technology used for the production of monoclonal antibodies is
    a) Mass culture
    b) Hybridoma
    c) Suspension culture
    d) Haploid culture

20. All are monoclonal antibodies except
    a) Rituximab
    b) Transtuzumab
    c) infliximab
    d) tamoxifen

21. Class III MHC genes encode for _____.
    a) CD_4 + Tcells
    b) CD8 + Tcells
    c) complement molecules
    d) Cytokine molecules

22. The genes for HLA proteins are clustered in major Histocompatibility complex located on
    a) chromosome 6
    b) chromosome 10
    c) chromosome 9
    d) chromosome 14

23. Each MHC molecule on the cell surface present a molecular fraction of a protein, called _____.
    a) penotype
    b) Epitope
    c) genotope
    d) antibody

24. Which of the following disease is not linked to HLA antigen?
    a) SLE
    b) Ankylosing spondytitis
    c) Myasthenia grains
    d) Type – II diabetis

25. Which type of PCR is used for quantitative plasma viral RNA.
    a) Nested PCR
    b) RT – PCR
    c) Multiplex PCR
    d) Gradient PCR

26. Taq polymerase used in PCR is derived from
    a) *Thermophillus influenzae*
    b) *Penicillium notation*
    c) *Thermus aquaticus*
    d) *Penicillium chrysogenum*

27. Most common site of metastasis in breast cancer is
    a) lung
    b) liver
    c) bone
    d) brain

28. Cancer cells can easily be destroyed by radiation due to
    a) fast mutation
    b) Rapid cell division
    c) lack of mutation
    d) lack of oxygen

29. ELISA is based on
    a) Ag – Ab interaction
    b) Ag – protein interaction
    c) Lectin – antibody interaction
    d) all of these

30. In ELISA protocol, _____ buffer is used to prepare antigen.
    a) phosphate buffer
    b) citrate buffer
    c) Barbiturate buffer
    d) bicarbonate buffer

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