

Model Question Paper - 1

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START QUIZ

Results



#1. Q1. Which of the following is a primary site for Vata Dosha according to Ayurveda?

- A. Amashaya (Stomach)
- B. Pakwashaya (Colon)
- C. Hridaya (Heart)
- D. Shira (Head)

#2. Q2. The “Hot infusion” in Ayurvedic pharmaceuticals is called:

- A. Kwatha
- B. Phanta
- C. Hima
- D. Swarasa

#3. Q3. During PCR (Polymerase Chain Reaction), the primer annealing step typically occurs:

- A. At the highest temperature in the cycle
- B. At a temperature lower than denaturation
- C. Simultaneously with extension
- D. After final extension

#4. Q4. In bioinformatics, FASTA format is used to store:

- A. Only protein structures



-
- B. RNA secondary structures
-
- C. DNA or protein sequences
-
- D. Phylogenetic trees

#5. Q5. Which among the following is known as the “immature RBC”?

-
- A. Megaloblast
-
- B. Reticulocyte
-
- C. Myeloblast
-
- D. Band cell

#6. Q6. According to Charaka, Trisutra (three pillars for understanding disease) includes:

-
- A. Hetu, Linga, Aushadha
-
- B. Dravya, Guna, Karma
-
- C. Roga, Aushadha, Pariksha
-
- D. Dosha, Dhatu, Mala

#7. Q7. The “post-transcriptional modification” in eukaryotes commonly includes:

-
- A. DNA methylation in promoter region
-
- B. Poly(A) tail addition to mRNA
-
- C. Ribosomal subunit assembly in nucleus
-
- D. DNA replication licensing

#8. Q8. Which of the following Rasa (taste) is said to pacify all three Doshas if used correctly?

-
- A. Lavana (Salty)
-
- B. Kashaya (Astringent)
-
- C. Madhura (Sweet)
-
- D. Katu (Pungent)

#9. Q9. The 70S ribosome found in prokaryotes consists of subunits:

-
- A. 60S and 40S
-
- B. 50S and 30S
-
- C. 50S and 20S
-
- D. 60S and 20S

#10. Q10. “Grahani” in Ayurveda primarily relates to dysfunction of:

-



- A. Colon
-
- B. Rectum
-
- C. Small intestine
-
- D. Esophagus

#11. Q11. In immunology, an example of a secondary lymphoid organ is:

-
- A. Thymus
-
- B. Bone marrow
-
- C. Spleen
-
- D. Liver

#12. Q12. According to Ayurveda, the main seat (Sthana) of Kapha in the body is:

-
- A. Amasaya (stomach region)
-
- B. Pakvashaya (colon region)
-
- C. Hridaya (heart region)
-
- D. Sweda vaha srotas (sweat channels)

#13. Q13. In DNA replication, the leading strand is synthesized:

-
- A. Discontinuously in small fragments
-
- B. Continuously in the 5'→3' direction
-
- C. From the 3'→5' direction only
-
- D. Without any need for a primer

#14. Q14. Which among the following is used as an indicator organism for water pollution with fecal contamination?

-
- A. Vibrio cholerae
-
- B. Escherichia coli
-
- C. Salmonella typhi
-
- D. Shigella dysenteriae

#15. Q15. Rasayana therapy in Ayurveda primarily aims at:

-
- A. Increasing body temperature
-
- B. Rejuvenation and longevity
-
- C. Inducing purgation
-
- D. Promoting sedation



#16. Q16. Which among the following is a protozoan parasite that causes malaria?

- A. Entamoeba histolytica
- B. Giardia lamblia
- C. Plasmodium vivax
- D. Leishmania donovani

#17. Q17. The concept of “Srotas” in Ayurveda refers to:

- A. Joints
- B. Organs
- C. Channels or pathways in the body
- D. Sites of Kapha Dosha only

#18. Q18. In genetic engineering, a restriction endonuclease typically recognizes:

- A. Random single-stranded RNA regions
- B. Specific short DNA sequences (palindromes)
- C. Centromeric repeat regions of chromosomes
- D. Only 3' overhang DNA ends

#19. Q19. “Santarpana Janya Vyadhi” in Ayurveda refers to diseases caused by:

- A. Malnutrition/undernourishment
- B. Over-nourishment/excess intake
- C. Excessive use of bitter and astringent foods
- D. Lack of water intake

#20. Q20. Which of the following blotting techniques is used to detect DNA fragments?

- A. Western blot
- B. Southern blot
- C. Northern blot
- D. Dot blot (protein)

#21. Q21. The mutation which does NOT alter the amino acid sequence of a protein is called:

- A. Missense mutation
- B. Nonsense mutation
- C. Frameshift mutation
- D. Silent mutation



#22. Q22. "Twak" as an Upadhatu in Ayurveda is formed during the metabolism of:

- A. Rasa Dhatu
- B. Rakta Dhatu
- C. Mamsa Dhatu
- D. Medas Dhatu

#23. Q23. In genetics, the F2 generation refers to:

- A. Offspring of the parental (P) generation
- B. Offspring from a test cross
- C. Offspring from selfing the F1 generation
- D. Cloned population from the F1 generation

#24. Q24. Kledaka Kapha is located primarily in the:

- A. Stomach (Amasaya)
- B. Rectum
- C. Small intestine
- D. Esophagus

#25. Q25. The sugar found in RNA is:

- A. Deoxyribose
- B. Ribose
- C. Lactose
- D. Fructose

#26. Q26. An X-linked recessive condition in humans manifests most often in:

- A. Females only
- B. Males only
- C. Males more frequently than females
- D. Both sexes equally

#27. Q27. A commonly known example of a viral vector used in gene therapy is:

- A. Adenovirus
- B. E. coli plasmid
- C. Salmonella phage
- D. Bacteriophage T2



#28. Q28. In Ayurveda, which type of Rasa is generally avoided in excess during varsha ritu (rainy season)?

- A. Amla (sour)
- B. Madhura (sweet)
- C. Tikta (bitter)
- D. Kashaya (astringent)

#29. Q29. The post-translational modification called phosphorylation commonly occurs on:

- A. Lysine or Proline residues
- B. Serine or Threonine residues
- C. Phenylalanine or Tryptophan residues
- D. Glycine or Alanine residues

#30. Q30. "Sandhi Sharir" in Ayurveda deals with the study of:

- A. Bones only
- B. Muscular system
- C. Joints
- D. Ligaments and tendons only

#31. Q31. In northern blotting, the molecule generally probed and detected is:

- A. DNA
- B. mRNA (RNA)
- C. Protein
- D. Lipid

#32. Q32. A dihybrid cross typically has a phenotypic ratio of:

- A. 3 : 1
- B. 1 : 1 : 1 : 1
- C. 9 : 3 : 3 : 1
- D. 2 : 2 : 2 : 2

#33. Q33. "Ardha Chandra Kapala" shape is classically attributed to which organ according to Ayurveda texts?

- A. Guda (rectum)
- B. Yakrit (liver)
- C. Hrudaya (heart)



- D. Amashaya (stomach)

#34. Q34. The lac operon in E. coli is a classic example of:

- A. Positive regulation by default

B. Inducible operon controlled by repressor

C. Constitutive gene expression with no operator

D. Repressible operon for amino acid biosynthesis

#35. Q35. "Nidra" (sleep) is categorized in Ayurveda under:

- A. Aharaniya (dietary) requirements

B. Vega (natural urges)

C. Dinacharya (daily routine) but not essential

D. Adharaniya Vega (urge that must be suppressed)

#36. Q36. Western blot primarily detects:

- A. RNA using cDNA probe

B. RNA using an RNA probe

C. Proteins using antibodies

D. DNA-protein interactions via immunoprecipitation

#37. Q37. A substance that donates electrons in a redox reaction is called:

- A. Oxidizing agent

B. Reducing agent

C. Isomerase

D. Catalyst only

#38. Q38. Avalambaka Kapha is chiefly located in the:

- A. Head region (Shira)

B. Heart & lungs

C. Oral cavity

D. Colon (Pakwashaya)

#39. Q39. "Koshtha" in an Ayurvedic context refers to the:

- A. Thoracic cavity

B. Abdominal region & bowel (Gastrointestinal tract)

C. Whole cranial region



- D. Marmas (vital points)

#40. Q40. The Okazaki fragments occur during:

- A. Leading-strand DNA replication

B. Lagging-strand DNA replication

C. Proofreading by DNA polymerase I

D. mRNA processing in eukaryotes

#41. Q41. In Charaka Samhita, the term “Roga Marga” refers to:

- A. Pathogen classification

B. Pathways for disease manifestation

C. Dietary regimens

D. Preventive measures

#42. Q42. Single Nucleotide Polymorphisms (SNPs) refer to:

- A. Any mutation over 10 base pairs

B. Chromosomal inversions

C. Variation of a single base at a given position in DNA

D. Microsatellite expansions

#43. Q43. “Madhura, Amla, Lavana” are collectively considered “Balya” if:

- A. Used in extremely large quantities

B. Taken with excessive water

C. Consumed in moderate quantity and in proper season

D. They are used after thorough fermentation

#44. Q44. Reverse transcriptase in retroviruses synthesizes:

- A. DNA from an RNA template

B. RNA from a DNA template

C. Protein from mRNA without ribosomes

D. DNA from a DNA template

#45. Q45. “Panduroga” (Ayurvedic concept) is correlated to which modern condition?

- A. Vitiligo

B. Anemia

C. Jaundice



- D. Leukemia

#46. Q46. A typical plasmid cloning vector contains all EXCEPT:

- A. Origin of replication (Ori)

B. Selectable marker (e.g. antibiotic resistance)

C. Multiple cloning site (MCS)

D. Ribosomal RNA gene cluster

#47. Q47. "Katu Rasa" is dominantly composed of which two Mahabhutas?

- A. Prithvi + Ap

B. Agni + Vayu

C. Vayu + Akasha

D. Agni + Jala

#48. Q48. Major Histocompatibility Complex (MHC) Class I molecules are present on:

- A. All nucleated cells

B. Only T-helper cells

C. Only RBCs

D. B-lymphocytes only

#49. Q49. In Ayurveda, the "Pradhana Karma" (main step) in Panchakarma for removing toxins is:

- A. Purva Karma

B. Pradhan Karma

C. Paschat Karma

D. Upa Karma

#50. Q50. Gene therapy primarily aims to:

- A. Transfer beneficial genes into a patient's cells

B. Clone entire organisms for organ harvest

C. Convert all exons into introns

D. Synthesize RNA probes for microarray analysis

#51. Q51. Which among the following refers to the Ayurvedic concept of disease prevention through proper daily routine?

- A. Janapadodhwamsa

B. Dinacharya



-
- C. Shodhana
-
- D. Yukti Vyapashraya

#52. Q52. In modern biochemistry, the enzyme that unwinds the DNA double helix during replication is:

-
- A. DNA ligase
-
- B. Helicase
-
- C. DNA polymerase I
-
- D. Topoisomerase

#53. Q53. Match the following (Dosha Subtype vs Characteristic Feature):

List-I (Dosha Subtype):

- A. Sadhaka Pitta,**
- B. Tarpaka Kapha,**
- C. Bhrajaka Pitta,**
- D. Bodhaka Kapha;**

List-II (Characteristic Feature):

- I. Maintains moisture of oral cavity,**
- II. Helps in complexion and lustre of skin,**
- III. Nourishes and maintains clarity of mind,**
- IV. Resides in sinuses, nourishes sense organs**

-
- (A) A-II, B-IV, C-III, D-I
-
- (B) A-III, B-IV, C-II, D-I
-
- (C) A-I, B-III, C-IV, D-II
-
- (D) A-IV, B-I, C-II, D-III

#54. Q54. "Ajirna" in Ayurveda is generally correlated with:

-
- A. Malabsorption syndrome
-
- B. Indigestion or dyspepsia
-
- C. Celiac disease
-
- D. Colon cancer

#55. Q55. The main cause for protein denaturation at high temperatures is disruption of:

-
- A. Peptide bonds
-
- B. Glycosidic bonds
-
- C. Hydrogen bonds
-
- D. Phosphodiester bonds



#56. Q56. Which of the following statements is/are TRUE regarding Rasashastra (Ayurvedic alchemy)?

- A. Parada (mercury) is considered foremost among metals.**
- B. Gandhaka (sulfur) is often processed with mercury for medicinal usage.**
- C. Kupipakwa Rasayana is a type of Bhasma for external use only.**
- D. Marana (incineration) is used to reduce toxicity of metals.**

- (A). A, B, and D only
- (B). A, C, and D only
- (C). B and C only
- (D). A, B, C, and D

#57. Q57. In immunology, opsonization of pathogens generally enhances:

- A. T-cell cytotoxic activity
- B. Phagocytosis by neutrophils or macrophages
- C. Immunoglobulin class switching
- D. Mast cell degranulation

#58. Q58. "Hridya Dravya" in Ayurveda refers to substances that:

- A. Promote laxative action
- B. Enhance hepatic functions
- C. Strengthen and invigorate the heart
- D. Cleanse the lungs

#59. Q59. Which of the following is a correct pairing for viral classification?

- A. Retroviruses - Double-stranded DNA viruses
- B. Adenoviruses - Single-stranded RNA viruses
- C. Coronaviruses - Positive-sense RNA viruses
- D. Orthomyxoviruses - Double-stranded RNA viruses

#60. Q60. In an adult human, the normal RBC count per microliter of blood is approximately:

- A. 500,000 - 1,000,000
- B. 2 - 3 million
- C. 4 - 6 million
- D. 8 - 10 million

#61. Q61. Which statement best describes "Sama Pitta"?

- A. Excess of acidic secretions in the body



-
- B. Pitta with normal, balanced function
-
- C. Pitta aggravated by Kapha Dosha
-
- D. Pitta completely diminished due to Vata

#62. Q62. Which among the following is a “Reverse Genetics” approach?

-
- A. Identifying a mutant phenotype first, then finding the gene
-
- B. Identifying a gene sequence first, then studying its mutant phenotype
-
- C. Generating proteins without referencing any gene
-
- D. Using only morphological traits to identify mutations

#63. Q63. A type of immune cell that secretes antibodies is:

-
- A. T helper cell
-
- B. Neutrophil
-
- C. Plasma B cell
-
- D. Macrophage

#64. Q64. In Ayurvedic physiology, “Annavaha Srotas” primarily carry:

-
- A. Urine and excretory products
-
- B. Nutrient essence to the Dhatus
-
- C. Digestive food matter through GI tract
-
- D. Nerve impulses in the body

#65. Q65. Which of the following procedures is part of Purva Karma (preparatory procedure) in Panchakarma?

-
- A. Nasya
-
- B. Virechana
-
- C. Snehana (internal oleation)
-
- D. Basti (enema)

#66. Q66. “DNA Fingerprinting” commonly uses which of the following repetitive DNA elements?

-
- A. Long interspersed nuclear elements (LINEs)
-
- B. Microsatellites or short tandem repeats (STRs)
-
- C. Ribosomal RNA genes
-
- D. Telomeric repeats



#67. Q67. (Fill in the blank) In Ayurvedic pharmacology, a strong purgative herb is often described as having _____ Veerya and Katu Vipaka.

- A. Ushna (hot)
- B. Sheeta (cool)
- C. Sita (cold infusion)
- D. Guru (heavy)

#68. Q68. According to Ayurveda, the “Twak” (skin) is predominantly formed from:

- A. Rakta Dhatu
- B. Mamsa Dhatu
- C. Medas Dhatu
- D. Rasa Dhatu

#69. Q69. A “Loss-of-function” mutation in a gene typically means:

- A. The gene product is overexpressed
- B. The gene product is nonfunctional or decreased in function
- C. The gene product mutates into an RNA virus
- D. The gene’s introns are spliced differently

#70. Q70. Which set of Mahabhutas constitute the Lavana (salty) Rasa?

- A. Agni + Vayu
- B. Jala + Teja
- C. Prithvi + Jala
- D. Vayu + Akasha

#71. Q71. In a typical test cross (genetics), an F1 hybrid is crossed with:

- A. A homozygous dominant individual
- B. A homozygous recessive individual
- C. A heterozygous individual of the same genotype
- D. The original F2 generation

#72. Q72. Which of the following is a characteristic symptom of aggravated Vata Dosha?

- A. Excessive thirst
- B. Burning sensation in the limbs
- C. Dryness and cracking in joints
- D. Lethargy and heaviness in the body



#73. Q73. Arrange the following steps in Rasayana therapy:

- A. Purva Karma,**
- B. Rasayana Dravya intake,**
- C. Pradhana Karma,**
- D. Pashchat Karma**

- (A) A → C → B → D
- (B) A → B → D → C
- (C) A → C → D → B
- (D) A → B → C → D

#74. Q74. Sanger sequencing technique primarily uses:

- A. DNA probes labeled with isotopes
- B. Chain-terminating dideoxynucleotides
- C. Endonucleases to degrade single-stranded DNA
- D. CRISPR-Cas9 for gene editing

#75. Q75. "Grahani Dosha" in Ayurveda often manifests with:

- A. Altered stool consistency**
- B. Distension of abdomen**
- C. Excessive sweating**
- D. Infrequent urination**

- (A). A and B only
- (B). B, C, and D only
- (C). A, B, and D only
- (D). A, C, and D only

#76. Q76. Which of the following is NOT a standard step in diagnosing genetic diseases via molecular methods?

- A. PCR amplification of suspect region
- B. Southern blot analysis
- C. Morphological identification of RBC shape
- D. DNA sequencing

#77. Q77. The classical subtypes of Kapha Dosha include:

- A. Kledaka,**
- B. Ranjaka,**
- C. Tarpaka,**
- D. Shleshaka**

- (A) A, B, C only



-
- (B) A, C, D only
-
- (C) B, C, D only
-
- (D) A, B, D only

#78. Q78. Which among the following procedures specifically aims at liquefying and mobilizing Doshas in Ayurveda?

-
- A. Raktamokshana
-
- B. Svedana (fomentation)
-
- C. Vamana
-
- D. Basti

#79. Q79. In biotechnology, “Transgenic” organisms are those that:

-
- A. Undergo natural mutations
-
- B. Have foreign DNA inserted into their genome
-
- C. Are produced by random mating in nature
-
- D. Do not express any recombinant proteins

#80. Q80. ‘Tiryak Gamana’ of Dosha indicates:

-
- A. Upward movement
-
- B. Irregular movement in all directions
-
- C. Lateral or sideways movement
-
- D. Complete cessation of movement

#81. Q81. Which microbial growth phase is characterized by active cell division and exponential increase in numbers?

-
- A. Lag phase
-
- B. Log (exponential) phase
-
- C. Stationary phase
-
- D. Death (decline) phase

#82. Q82. Which among the following statements is TRUE for “Teekshna Dravya” in Ayurveda?

-
- A. They are always cold in potency
-
- B. They have a mild effect on Doshas
-
- C. They can digest Ama quickly
-
- D. They promote sleep and sedation



#83. Q83. A color-blind woman (X-linked recessive) marries a normal man. What is the probability that their daughters will be color-blind?

- A. 0%
- B. 25%
- C. 50%
- D. 100%

#84. Q84. "Sattva," "Rajas," and "Tamas" in Ayurveda are primarily related to:

- A. Dosha subtypes in the body
- B. Dhatu formation
- C. Mental constitutions
- D. Marma classification

#85. Q85. In bacterial genetics, "Conjugation" requires:

- A. Phage infection
- B. Free DNA in the environment
- C. Cell-to-cell contact via pilus
- D. Bacterial plasmid removal

#86. Q86. Which of the following Rasa (tastes) has dominance of Vayu + Teja (Agni) Mahabhutas and is known for its pungent property?

- A. Katu Rasa
- B. Tikta Rasa
- C. Kashaya Rasa
- D. Amla Rasa

#87. Q87. Identify the incorrect pairing (Dhatu - Upadhatu) according to Ayurveda:

- A. Rasa - Stanya (breast milk)
- B. Rakta - Sira (blood vessels)
- C. Medas - Snayu (ligaments)
- D. Asthi - Danta (teeth)

#88. Q88. "HGP" in the field of genomics stands for:

- A. Human Genotype Project
- B. Human Genome Project
- C. Haplotype Genetic Program



- D. Human Gene Polymorphism

#89. Q89. The function of telomerase enzyme is:

- A. To unwind the DNA strand at the replication fork

B. To remove introns from pre-mRNA

C. To extend telomeres in eukaryotic chromosomes

D. To repair thymine dimers caused by UV light

#90. Q90. "Vamana Karma" is typically indicated in the management of:

- A. Aggravated Vata

B. Aggravated Kapha

C. Aggravated Rakta Dhatu only

D. Chronic dryness disorders

#91. Q91. Which among the following is NOT a desired characteristic of a good Ayurvedic herbal raw material?

- A. Authentic botanical source

B. Grown in proper season and habitat

C. Contaminated with heavy metals naturally

D. Free from adulteration

#92. Q92. Lymph nodes are typically the site for:

- A. T-lymphocyte and B-lymphocyte activation

B. RBC production in adults

C. Hormonal secretion of adrenaline

D. Chylomicron digestion only

#93. Q93. The sequence "TATATT" at -10 region in a prokaryotic promoter is known as:

- A. TATA box or Pribnow box

B. Shine-Dalgarno sequence

C. Kozak sequence

D. Operator site

#94. Q94. According to classical texts, "Sadyovamana" is used for:

- A. Immediate sedation in fever

B. Quick emesis in case of toxic ingestion



- C. Enhancing physical strength
-
- D. Prolonged elimination therapy

#95. Q95. The cell cycle phase where DNA replication occurs is:

-
- A. G1 phase
-
- B. S phase
-
- C. G2 phase
-
- D. M phase

#96. Q96. "Manahshila" (Realgar) in Rasa Shastra is primarily composed of:

-
- A. Arsenic disulfide
-
- B. Mercury chloride
-
- C. Copper sulfate
-
- D. Zinc oxide

#97. Q97. Which among the following sets are "Guru" (heavy) in property according to Ayurvedic pharmacology?

- A. Ghee**
- B. Honey**
- C. Black gram**
- D. Rice (Shali)**

-
- A. A, C only
-
- B. A, C, D only
-
- C. B, C, D only
-
- D. A and D only

#98. Q98. During eukaryotic gene expression, the region retained in mature mRNA after splicing is called:

-
- A. Intron
-
- B. Exon
-
- C. Promoter
-
- D. Operator

#99. Q99. "Madhutailika Basti" is an Ayurvedic enema prepared using:

-
- A. Honey and Til (sesame) oil
-
- B. Mustard oil and jaggery
-
- C. Ghee and salt water
-
- D. Honey and coconut oil



#100. Q100. Which of these is considered an Ayurvedic approach for mental well-being?

- A. Bahya Sneha (External oleation)
- B. Shirodhara with Medhya Rasayana
- C. Virechana followed by Vasti only
- D. Stressful physical activity routine

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