

TR/SSO(BIO)/14

Four options are given against each of the following questions. Select the best / correct option from among the four options and encode in the answer sheet by using **Black Ball Point Pen** only as per example given below :

Example : The capital of India is :

- (A) Delhi (B) New Delhi
(C) Indraprastha (D) None of these

PART - I

1. In Tripura the sign of Buddhist culture is seen at
(A) Unokoti
(B) Pilak
(C) Jampui
(D) None of these
2. The north flowing river of Tripura is
(A) Khowai
(B) Howrah
(C) Pheni
(D) Gomati
3. The leader of the Reang Revolt was
(A) Dasharath Deb
(B) Kumari Madhuti
(C) Nripen Chakraborty
(D) Ratanmani Royaja
4. King of Tripura who helped scientist Jagadish Chandra Bose, providing financial help
(A) Maharaja Bir Chandra Manikya
(B) Maharaja Birendra Kishore Manikya
(C) Maharaja Radhakishore Manikya
(D) Maharaja Bir Bikram Kishore Manikya.
5. The state where the famous Puskar fair is held every year
(A) Rajasthan
(B) Gujarat
(C) Karnataka
(D) Kashmir

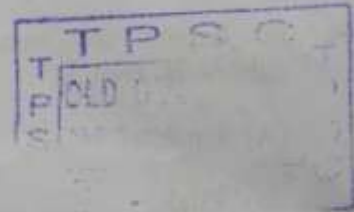
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(3)

[Turn over

6. Corbett National Park is situated in
(A) Meghalaya
(B) Manipur
(C) Mizoram
(D) Uttarakhand
7. Who is the first woman Chief Minister of a State in India?
(A) Sarojini Naidu
(B) Sucheta Kripalani
(C) Nandini Sathpathy
(D) Padmaja Naidu
8. Longest Glacier in India is
(A) Siachen
(B) Nurba
(C) Trango
(D) None of these
9. Capital of Australia is
(A) Copenhagen
(B) Ottawa
(C) Melbourne
(D) Canberra
10. The 'Land of Midnight Sun' is
(A) Japan
(B) Norway
(C) Scotland
(D) New Zealand
11. The hair and nails are made of
(A) Pectin
(B) Keratin
(C) Calcium
(D) Iron
12. There is no provision of awarding nobel prize in
(A) Mathematics
(B) Physics
(C) Chemistry
(D) Economics
13. The moon revolves around the earth approximately in every
(A) 365 days
(B) 24 hours
(C) 60 days
(D) 28 days

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14. Which one among the following is not air pollutant ?

- (A) N_2
- (B) H_2O
- (C) NO
- (D) CO



15. A radio is sold in ₹ 312 where the loss is $\frac{1}{3}$ of selling price. The cost price of the radio is

- (A) ₹ 416
- (B) ₹ 208
- (C) ₹ 104
- (D) None of these

16. 25 labours earn ₹ 3100 in 4 days. Earning of 12 labours in 20 days are

- (A) ₹ 7880
- (B) ₹ 9850
- (C) ₹ 7440
- (D) ₹ 8650

17. An article is marked at ₹ 10,00,000. The shopkeeper allows successive discount of x%, y% and z% on it. The net selling price is

- (A) ₹ $(100-x)(100-y)(100-z)$
- (B) ₹ $(100-x)(100-y)(100-z) \times 10^6$
- (C) ₹ $(100-x)(100-y)(100-z)/10^6$
- (D) ₹ $(100-x)(100-y)(100+z)$

18. At what rate of simple interest will a sum be tripled itself in 16 years ?

- (A) $11\frac{1}{2}\%$ p.a
- (B) $13\frac{1}{2}\%$ p.a.
- (C) $14\frac{1}{2}\%$ p.a.
- (D) $12\frac{1}{2}\%$ p.a.

19. The name of the author of the novel 'Darkness of Noon'

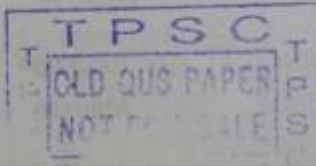
- (A) Arthur Koestler
- (B) James Joyce
- (C) John Steinbeck
- (D) F. Scott

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20. 'Meghadūtam' was written by
(A) Kalidasa
(B) Tulsi Das
(C) Banabhatta
(D) Abul Fazal
21. The first Cyber Forensic Laboratory (CFL) of India was established in
(A) Assam
(B) Andhra Pradesh
(C) Tripura
(D) None of these
22. The French Open Tennis Championship- 2013 for women was won by
(A) Serena Williams
(B) Venus Williams
(C) Maria Sharapova
(D) Nadia Petrova
23. 14th Finance Commission was formed in 2013 with Chairman
(A) M. Gobinda Rao
(B) Y. Venugopal Reddy
(C) D. Subba Rao
(D) M. Singh Ahluwalia
24. Palatana Gas based powerplant was inaugurated by
(A) Sri Pranab Mukherjee
(B) Sir Manik Sarkar
(C) Dr. D.Y. Patil
(D) Sri Devanand Konwar
25. Malaysia Airlines flight MH-370 has been missing since 8th March, 2014 when it was going from
(A) Kualalumpur to Beijing
(B) Johar to Beijing
(C) Perak to Beijing
(D) Kelantan to Beijing
26. The submarine in which an accident took place in February, 2014 is
(A) INS Chakra
(B) INS Ashwini
(C) INS Sindhurakshak
(D) INS Sindhuratna
27. Who is the present Chief Justice of Supreme Court of India ?
(A) P. Sathasivam
(B) R. M. Lodha
(C) Vayalar Ravi
(D) Raghuram Rajan

28. Who is the president of World Bank ?
(A) Peter Tomka
(B) Thomas Bach
(C) Jim Yong Kim
(D) None of them
29. Which one is the headquarter of Sipahijala district ?
(A) Bishramganj
(B) Bishalgarh
(C) Jampuijala
(D) Sonamura
30. Subdivisions of Dhalai district are
(A) Kamalpur, Ambassa, Longtarai Valley, Gandachera
(B) Kamalpur, Kumarghat, Longtarai Valley, Gandachera
(C) Kumarghat, Ambassa, Longtarai Valley, Gandachera
(D) Kalyanpur, Ambassa, Kumarghat, Longtarai Valley
31. Agartala Municipal Corporation has started its functioning with effect from
(A) 26th January, 2014
(B) 21st February, 2014
(C) 21st January, 2014
(D) 28th February, 2014
32. Total number of candidates contested for the two Loksabha seats of Tripura in recently concluded 16th Parliamentary election was
(A) 25
(B) 26
(C) 24
(D) 23
33. Which year was declared as National Year of Mathematics in our country ?
(A) 2005
(B) 2012
(C) 2011
(D) 2010
34. Which of the following countries will be the host of 2016 Summer Olympic Games ?
(A) South Africa
(B) Argentina
(C) Canada
(D) Brazil

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35. Who will take over the charge of the Chief of Army Staff of India after retirement of General Bikram Singh, the present Chief of Indian Army ?
- (A) General V. K. Singh
(B) General J. J. Singh
(C) General S. K. Singh
(D) General Dalbir Singh Suhag
36. As per 2011 Census, the population density of India is
- (A) 305 persons/sq km
(B) 325 persons/sq km
(C) 340 persons/sq km
(D) 382 persons/sq km
37. Mary Kom who won a Bronze Medal in the London Olympic Games-2012 belongs to
- (A) Meghalaya
(B) Manipur
(C) Mizoram
(D) Nagaland
38. In 2015 Indian Science Congress will be held in
- (A) Chennai
(B) Mumbai
(C) Delhi
(D) Kolkata
39. RUSA means
- (A) Rashtriya Ucchatara Shiksha Abhiyan
(B) Rashtriya Unnatatara Shiksha Abhiyan
(C) Rashtriya Ucchatara Shiksha Academy
(D) Rashtriya Ucchatara Sanskrit Academy
40. Dipa Karmakar, a renowned sports personnel of Tripura, is associated with the field
- (A) Lawn Tennis
(B) Gymnastics
(C) Badminton
(D) Table Tennis

PART - II

41. Natural genetic engineer, is a term used for :
- (A) Agrobacterium
 - (B) Azotobactor
 - (C) Azospirillum
 - (D) Aspergillus
42. Photosystem-I is essential for production of :
- (A) ATP
 - (B) Plastoquinol
 - (C) NADH
 - (D) FMNH
43. Citric acid is industrially produced by :
- (A) *Penicillium notatum*
 - (B) *Saccharomyces cerevisiae*
 - (C) *Aspergillus niger*
 - (D) *Pseudomonas*
44. All animals belonging to vertebrate class mammalia as the whale, sloth and the squirrel possess :
- (A) Viviparity
 - (B) Mammary gland
 - (C) Hair
 - (D) Swim bladder
45. The components of the plasma membrane responsible for active transport are :
- (A) Proteins
 - (B) Polar ends of fatty acids
 - (C) Fatty acid tails
 - (D) Only the open channels
46. Select the pair which does not match :
- (A) Honey bee : Apiculture
 - (B) Silkworm moth : Sericulture
 - (C) Silver fish : Silviculture
 - (D) Fish : Pisciculture

47. How many ATP molecules can be derived from each molecule of Acetyl CoA that enters the Krebs cycle ?
- (A) 6
(B) 12
(C) 18
(D) 38
48. Which one of the following pair of terms is not synonymous :
- (A) Recombinant DNA technology and Genetic engineering
(B) Genetically modified crops and Transgenic crops
(C) Restriction enzyme and Restriction endonuclease
(D) Virus and bacteriophage
49. The scientific name of modern human is :
- (A) *Homo habilis*
(B) *Australopithecus afarensis*
(C) *Homo sapiens sapiens*
(D) None of these
50. The term which explains the evolution of similar features in organisms of two different stock is :
- (A) Adaptive radiation
(B) Macro evolution
(C) Convergent evolution
(D) Divergent evolution
51. The term used for inadequacy of oxygen in blood is :
- (A) Anoxia
(B) Hypoxia
(C) Asphyxia
(D) Anorexia
52. One of the following is not a consequence of global warming :
- (A) Melting ice cap
(B) Hurricanes
(C) Ozone depletion
(D) Drought

53. One of the enzymes which is not involved in DNA replication is :

- (A) Ligase
- (B) Endonuclease
- (C) DNA polymerase
- (D) Lyase

56. Green Belt refers to :

- (A) Forest cover
- (B) Area demarcated around cities and towns to reduce noise and pollution
- (C) Protected areas in forests
- (D) Terai forest region.

54. The site for ATP synthesis in TCA cycle in mitochondria is :

- (A) Space between the two mitochondrial membranes
- (B) F_1 -particles
- (C) Mitochondrial matrix
- (D) Cristae

57. Quantosomes occur on the surface of :

- (A) Cristae
- (B) Plasmalemma of chloroplast
- (C) Endoplasmic reticulum
- (D) Thylakoids

55. The organization which publishes the 'Red Data Book' is :

- (A) National Wildlife Action Plan
- (B) Convention on International Trade in Endangered species of Wild Fauna and Flora
- (C) International Union for Conservation of Nature and Natural Resources
- (D) International Panel of Climate Change.

58. Wind pollinated flowers are :

- (A) White in colour and less in number
- (B) Bright coloured and scented
- (C) White in colour and more in number
- (D) Bright coloured and large

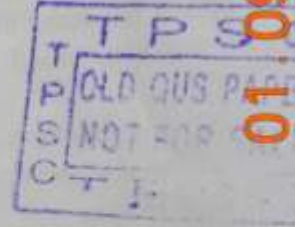
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59. Bar bodies result from :
- (A) Inactivation of one X-chromosome by the Y-chromosome
 - (B) A third X-chromosome
 - (C) Inactivation of one X-chromosome for dosage compensation
 - (D) Inactivation of Y-chromosome by the X-chromosome
60. Which of the following scientists shared the Nobel Prize with Watson and Crick for DNA structure ?
- (A) Rosalind Franklin
 - (B) Paulirtg
 - (C) Wilkins
 - (D) Khorana
61. BOD (Biological Oxygen Demand) is
- (A) Amount of oxygen consumed by micro-organisms for decaying organic matter per unit volume of water.
 - (B) Amount of oxygen required by aquatic plants and animals for survival.
 - (C) Amount of CO_2 consumed by micro-organisms per unit of sewage water.
 - (D) Demand of oxygen by aquatic plants for photosynthesis.
62. Alternate name of heartwood is :
- (A) Alburnum
 - (B) Duramen
 - (C) Sap wood
 - (D) Spring wood
63. Acid rains are produced by
- (A) Excess NO_2 and SO_2 from burning fossil fuels.
 - (B) Excess production of NH_3 by industry and coal gas.
 - (C) Excess release of CO by incomplete combustion.
 - (D) Excess formation of CO_2 by combustion and animal respiration.
64. Nucleic acids are polymers of the following monomers :
- (A) Nucleosides
 - (B) Nucleotides
 - (C) Pentose sugar
 - (D) Hexose phosphate sugar
65. In an ecosystem, which one shows one-way passage ?
- (A) Free energy
 - (B) Carbon
 - (C) Nitrogen
 - (D) Potassium

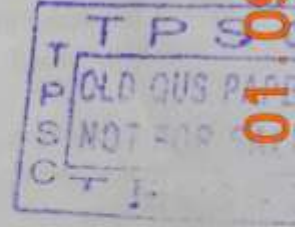
66. Which of the following statements describing Vitamin-K is true ?
- (A) Vitamin K is degraded by intestinal bacteria.
 - (B) It is obtained by eating citrus fruits.
 - (C) It is required for the synthesis of prothrombin.
 - (D) It prevents thrombosis.
67. The term that refers to division of the cytoplasm is :
- (A) Cytokinesis
 - (B) Anaphase
 - (C) Apoptosis
 - (D) Karyokinesis
68. Which of the following is not an endocrine gland ?
- (A) Pancreas
 - (B) Adrenal glands
 - (C) Salivary glands
 - (D) Thyroid gland
69. Biodiversity
- (A) Increases towards the equator
 - (B) Decreases towards the equator
 - (C) Remain same throughout the planet
 - (D) Has no effect on change in latitude
70. Which molecule in plant cells first capture the radiant energy from sunlight ?
- (A) Glucose
 - (B) Carbon dioxide
 - (C) Chlorophyll
 - (D) Adenosine tri phosphate
71. Which of these organisms are most useful in preventing earth from being covered with bodies of dead organisms ?
- (A) Herbivores
 - (B) Producers
 - (C) Parasites and viruses
 - (D) Fungi and bacteria

72. Which of the following require a host cell because they are not able to make proteins on their own ?
- (A) Blue green algae
 - (B) Bacteria
 - (C) Protozoans
 - (D) Viruses
73. Elaioplasts are types of leucoplast in higher plants that may synthesize and store —
- (A) Starch
 - (B) Protein
 - (C) Oils
 - (D) Carotenoids
74. The channels of protoplasm that exists through cell walls that connect one cell to another are called —
- (A) Plasmodesmata
 - (B) Stomata
 - (C) Watsamata
 - (D) Cytoplasmic thread
75. Chromosomes measurements are generally taken during
- (A) Interphase
 - (B) Prophase
 - (C) Anaphase
 - (D) None of these
76. Cancer cells are
- (A) Unlimited number of cell divisions
 - (B) Growth without external signals
 - (C) Avoidance of cell death
 - (D) All of the above
77. The enzyme which builds a mRNA strand complimentary to the DNA transcription unit is called
- (A) DNA polymerase
 - (B) RNA polymerase
 - (C) Helicase
 - (D) DNA ligase
78. Histone four (H_4) consists of 102 amino acids and it has
- (A) Negative charge
 - (B) Positive charge
 - (C) Neutral
 - (D) None of these

86. Choose the correct statement about the genetic code
- (A) Includes 61 codons for amino acids and 3 stop codons
 - (B) Almost universal, exactly the same in most genetic system
 - (C) Three bases per codon
 - (D) All of the above
87. An Hfr strain of E. Coli contains :
- (A) A vector of yeast or bacterial origin which is used to make many copies of a particular DNA sequence
 - (B) A bacterial chromosome with a human gene inserted
 - (C) A bacterial chromosome with F-factor inserted
 - (D) A human chromosome with a transposable element inserted
88. Those mutations that arise in the absence of known mutagen are known
- (A) Induced mutation
 - (B) Fused mutation
 - (C) Spontaneous mutation
 - (D) None of the above
89. The dental formula characteristic of old world anthropoids is :
- (A) 1-1-3-3
 - (B) 2-1-2-3
 - (C) 2-1-3-3
 - (D) 3-1-4-3
90. The relationship between specific environmental features and social behaviour primate is the discipline of :
- (A) Sociobiology
 - (B) Biosociology
 - (C) Socioecology
 - (D) Sociolinguistics
91. The study of human evolution as evidenced by fossil record is
- (A) Paleoanthropology
 - (B) Osteology
 - (C) Primatology
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92. When Mendel crossed peas with R_T and R_n alleles, the chances of getting r_n offspring was :

- (A) 100%
- (B) 75%
- (C) 50%
- (D) 25%



93. Dark skin is advantageous in the tropics because it

- (A) helps to prevent rickets
- (B) allows maximum exposure to use radiation
- (C) promotes vitamin D synthesis
- (D) protects from overexposure to use radiation

94. Identifying each species by two Latin term is called the :

- (A) Malthusian doctrine
- (B) Bionomial system
- (C) Lamarkism
- (D) Uniformitarianism

95. Proteins are made of amino acids linked together by specific bonds called

- (A) Peptide bond
- (B) Nitrogen bond
- (C) Hydrogen bond
- (D) Hydrogen and Nitrogen bond

96. When cancer cells gains the ability to move independently and invade other tissues, they are said to have :

- (A) Mobilized
- (B) Evolved
- (C) Metastasized
- (D) Metamorphed

97. Mushroom is a :

- (A) Saprophyte
- (B) Epiphyte
- (C) Facultative parasite
- (D) Obligate parasite

98. A cell from heart muscle would probably have an unusually high proportion of

- (A) Lysosomes
- (B) Mitochondria
- (C) m-RNA
- (D) Golgi bodies

99. All flowering plants (Angiosperms)

- (A) produce exposed seeds
- (B) are nonvascular
- (C) have flagellated sperms
- (D) have fruits

100. A short term adjustment human make to altitude is :

- (A) Decreased red blood cell production
- (B) Decreased heart rate
- (C) Increased red blood cell production
- (D) Decreased respiration.



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