



Gujarat Biotechnology Research Centre

Technical Assistant Prelim

Application No: _____

This question booklet contains 16 pages

Time: 1 Hours

Total Marks: 100

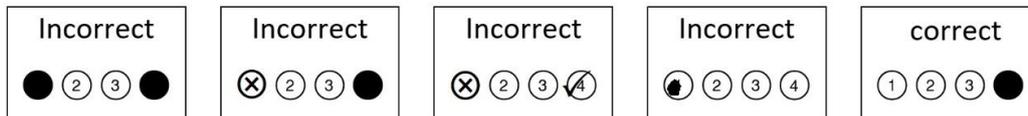
Total Questions: 100

Invigilator Signature :

Candidate Signature :

Instructions for Candidate

1. This question booklet contains 100 questions.
2. Each correct answer carries 1 mark.
3. Every attempted question with incorrect answer shall carry a negative mark of 0.25.
4. Use only Black Ball Point Pen to darken the appropriate circle in OMR.
5. Please darken the complete circle.
6. Darken ONLY ONE CIRCLE for each Question as shown below:



7. Answer once marked cannot be changed.
8. Please do not make any stray marks on the Question Booklet.
9. Rough works must be done on the blank page of Question Booklet.
10. Mark your answer in the appropriate space in the Answer Sheet against the Number corresponding to the question.
11. The Candidate has to submit Question booklet and OMR response sheet to the invigilator on conclusion of examination.

- 1 નીચે આપેલાં જોડણીનાં જોડકાંમાં ખોટું જોડકું શોધો.
 (A) જમદગ્નિ
 (B) જયદ્રથ
 (C) જરાસંઘ
 (D) જૈમિનિ
- 2 નીચેના શબ્દની સન્ધિ જોડો.
 ઉદ્ + યમ
 (A) ઉદ્યમ
 (B) ઉદમ
 (C) ઊદ્યમ
 (D) ઉદ્મ
- 3 'સંયમ' શબ્દમાં કયો અનુનાસિક વ્યંજન રહેલો છે?
 (A) 'ગ'
 (B) 'મ્'
 (C) 'વ્'
 (D) 'અં'
- 4 સમાસ ઓળખાવો. (પ્રશ્ન ૪ અને ૫)
 હાથ કઠણ લાકડા જેવો છે.
 (A) ઉત્પ્રેક્ષા
 (B) શ્લેષ
 (C) સજીવારોપણ
 (D) ઉપમા
- 5 ત્રિકાલનું જ્ઞાન હતું કુમારને ...
 (A) ઉપપદ
 (B) દ્વિગુ
 (C) તત્પુરુષ
 (D) કર્મધારય
- 6 નીચે આપેલા તળપદા શબ્દોનો શિષ્ટ શબ્દ, આપેલા વિકલ્પોમાંથી શોધો. (પ્રશ્ન ૬ અને ૭)
 સલવટ
 (A) કરચલી
 (B) તિરાડ
 (C) સળવળાટ
 (D) સરસરાટ

- 7 રૂંવું
(A) રૂંવું
(B) રૂંફાળું
(C) રોમ
(D) રોવું
- 8 નીચે આપેલા વાક્યમાં રેખાંકિત શબ્દ કયા કૃદંતનો છે તે શોધો.
માણસો માખીઓની જેમ મરતા હતા.
(A) વર્તમાનકૃદંત
(B) ભૂતકૃદંત
(C) ભવિષ્યકૃદંત
(D) વિધ્યર્થકૃદંત
- 9 નીચેનાં વાક્યમાંથી કર્મણિવાક્ય શોધીને લખો :
હું પત્ર લખવા ઓફિસે ગયો.
(A) હુંથી પત્ર લખવા ઓફિસે જવાયું.
(B) મારાથી પત્ર લખવા ઓફિસે જવાયું.
(C) શિક્ષકે મને પત્ર લખવા ઓફિસે જવા કહેવડાવ્યું.
(D) મારાથી પત્ર લખવા ઓફિસે જવાશે.
- 10 નીચેનાં વાક્યમાં રેખાંકિત સંજ્ઞાનો પ્રકાર, આપેલા વિકલ્પોમાંથી શોધો.
તે મૂળ શિક્ષકનો જીવ હતો.
(A) જાતિવાચક
(B) ભાવવાચક
(C) દ્રવ્યવાચક
(D) વ્યક્તિવાચક
- 11 May we have_____ pleasure of your company for lunch?
(A) a
(B) an
(C) the
(D) zero article
- 12 She_____TV when her husband came.
(A) watch
(B) was watching
(C) is watching
(D) watched

Read the following sentence to find whether there is any error in any part :

- 13 I want you to / pick up the box of eggs gently / and kept it in / the corner carefully.
(A) I want you to
(B) pick up the box of eggs gently
(C) and kept it in
(D) the corner carefully.
- 14 The _____ he grew, the more demands he made.
(A) elder
(B) eldest
(C) older
(D) oldest
- 15 Do not put off till tomorrow what you _____ do today.
(A) can
(B) could
(C) may
(D) might
- 16 I wish I _____ a beautiful girl.
(A) am
(B) be
(C) was
(D) were
- 17 He is not popular _____ the students.
(A) by
(B) among
(C) with
(D) at

Which of the phrases (A), (B), (C) and (D) given below the sentence should replace the phrase that can replace bold part to make the sentence grammatically correct. If none of the substitution improve the sentence then indicate 'No Improvement' option (D) (Q. 18 to 20)

- 18 The **crime has growth rapidly** in Russia since the disintegration of the communist system.
(A) rapid crime has grown
(B) crime has grown rapidly
(C) crimes grow rapidly
(D) No improvement
- 19 During his long discourse, he did not **touch** that point.
(A) touch upon
(B) touch on
(C) touch of
(D) No improvement
- 20 Until he **does not ask for** an apology, I am not going to reinstate him.
(A) does ask for
(B) asked for
(C) asks for
(D) No improvement

- 21 ભારતમાં હિન્દી પછીના ક્રમે બોલાતી (બીજા ક્રમની) ભાષા કઈ?
- (A) બંગાળી
(B) પંજાબી
(C) ગુજરાતી
(D) મરાઠી
- 22 આર્ટિકલ_____ થી દરેક વ્યક્તિને ધાર્મિક સ્વતંત્રતાનો અધિકાર મળેલ છે
- (A) 46
(B) 30
(C) 25 થી 28
(D) 10
- 23 ભારતીય બંધારણના કયા ભાગમાં મૂળભૂત અધિકારોનો ઉલ્લેખ કરેલ છે?
- (A) ભાગ-3
(B) ભાગ-૪
(C) ભાગ-૫
(D) ભાગ-૨
- 24 નીચેનામાંથી સૌથી ઓછી સંગ્રહક્ષમતા ધરાવતું સ્ટોરેજ ડિવાઇસ કયું છે ?
- (A) પેનડ્રાઇવ
(B) ફ્લોપી ડિસ્ક
(C) હાર્ડ ડિસ્ક
(D) ડીવીડી
- 25 ભારતમાં કઈ રમતમાં 'સંતોષ ટ્રોફી' એનાયત કરવામાં આવે છે ?
- (A) બેડમિન્ટન
(B) ટેનિસ
(C) ક્રિકેટ
(D) ફૂટબોલ
- 26 2011ની જનગણના પ્રમાણે અમદાવાદ શહેરમાં સરેરાશ સાક્ષરતા દર કેટલો હતો ?
- (A) 88.29%
(B) 75.26%
(C) 45.29%
(D) 55.85%
- 27 ગુજરાત સરકાર દ્વારા વનમહોત્સવ અંતર્ગત 'ગોવિંદ ગુરુ સ્મૃતિ વન' કયા સ્થળે બનાવવામાં આવેલ છે ?
- (A) પાવાગઢ
(B) માનગઢ
(C) જુનાગઢ
(D) સાપુતારા

- 28 ગુજરાત રાજ્યના 1600 કિમી લાંબા દરિયાકિનારા ઉપર કેટલા વધારે બેટ આવેલા છે ?
- (A) 103 થી વધારે
(B) 57થી વધારે
(C) 85 થી વધારે
(D) 144થી વધારે
- 29 ઉત્કંઠેશ્વર મહાદેવનું મંદિર કઈ નદીના કિનારે આવેલું છે ?
- (A) માજુમ
(B) મેશ્વો
(C) વાત્રક
(D) સાબરમતી
- 30 “અહા, હું એકલો દુનિયા બિયાબામાં સૂનો ભટકું’ આ પંક્તિના સર્જકનું નામ જણાવો.
- (A) મનુભાઈ પંચોળી
(B) મણિલાલ નભુભાઈ
(C) બાલાભાઈ દેસાઈ
(D) નર્મદ
- 31 કયા સાહિત્યકારે ‘ પરિક્રમા નર્મદા મૈયાની’ પુસ્તક દ્વારા ગુજરાતી પ્રવાસ સાહિત્યમાં નોંધપાત્ર પ્રદાન કર્યું છે ?
- (A) કલાપી
(B) શામળ
(C) અમૃતલાલ વેગડ
(D) પ્રેમાનંદ
- 32 વિશ્વનો એકમાત્ર ખંડ કે જ્યાંથી વિષુવવૃત્ત, કર્કવૃત્ત અને મકરવૃત્ત પસાર થાય છે, તે કયો ?
- (A) એશિયા
(B) આફ્રિકા
(C) એન્ટાર્કટિકા
(D) યુરોપ
- 33 “રાજ્યપાલ (ગવર્નર) બીજો કોઈ લાભદાયક હોદ્દો ધરાવી શકશે નહીં.” એ જોગવાઈ બંધારણની કઈ કલમમાં કરવામાં આવેલ છે?
- (A) 155(2)
(B) 151(2)
(C) 158(2)
(D) 153(2)

- 34 એશિયન ગેમ્સ - 2022નું આયોજન કયા દેશમાં કરવામાં આવનાર છે?
- (A) પાકિસ્તાન
(B) ભારત
(C) ચીન
(D) શ્રીલંકા
- 35 કોરલ ડ્રોમાં એક કરતા વધુ ઓબ્જેક્ટને પસંદ કરવા માટે વારાફરતી ઓબ્જેક્ટ પસંદ કરતી વખતે _____ કી દબાવી રાખવી પડે છે.
- (A) ટેબ
(B) અલ્ટર
(C) કન્ટ્રોલ
(D) શિફ્ટ
- 36 _____ is the place of enzymes that helps in converting fats into carbohydrates
- (A) Glyoxysomes
(B) Lysosomes
(C) Liposomes
(D) Microsomes
- 37 The first person to demonstrate Mendelian inheritance of qualitative characters in animals
- (A) T.H. Morgan
(B) W.E. Castle
(C) William Bateson
(D) Nilson Ehle
- 38 Human intelligence is a
- (A) Qualitative trait
(B) Quantitative trait
(C) Threshold trait
(D) Adaptability trait
- 39 One Angstrom measures
- (A) 10^{-10} metre
(B) 10^{-6} metre
(C) 10^{-9} metre
(D) 10^{-7} metre
- 40 The first genome to be completely sequence was
- (A) E. coli
(B) H. influenza
(C) Drosophila
(D) fX174

- 41 A single organism composed of cells from different zygotes is called
- (A) Chimera
 - (B) Mosaic
 - (C) Clones
 - (D) Multicellular
- 42 A technique in electrophoresis in which isoelectric focusing is a major part is:
- (A) AGE
 - (B) PFGE
 - (C) 2D PAGE
 - (D) SDS-PAGE
- 43 The smallest absolute amount of change in concentration that can be detected by a method is termed as:
- (A) Resolution
 - (B) Accuracy
 - (C) Sensitivity
 - (D) Precision
- 44 RMSD stands for?
- (A) Root Mean Square Difference
 - (B) Root Median Square Deviation
 - (C) Root Mean Square Deviation
 - (D) Real Mean Square Deviation
- 45 HLA stands for
- (A) Human Leukocyte Antigen
 - (B) Human Lymphocyte Antigens
 - (C) Human Leukocyte Antibody
 - (D) Human Lymphocyte Antibody
- 46 Natural killer cells
- (A) Belongs to B-cell lineage
 - (B) Belongs to T-cell lineage
 - (C) Display cytotoxic effect on tumour cell
 - (D) Require previous antigen exposure for activation
- 47 The first molecular biology server expasy was in the year _____.
- (A) 1992
 - (B) 1993
 - (C) 1994
 - (D) 1995
- 48 The term Bioinformatics was coined by _____.
- (A) J.D Watson
 - (B) Pauline Hogeweg
 - (C) Margaret Dayhoff
 - (D) Frederic Sanger

- 49 Yeast extract is an excellent source of
- (A) Fat
 - (B) Proteins
 - (C) B Vitamin
 - (D) Carbohydrates
- 50 The protein moiety of an enzyme is known as
- (A) Holo enzyme
 - (B) Apo enzyme
 - (C) Co enzyme
 - (D) Enzyme
- 51 The maturation of red blood cells does not depend on
- (A) folic acid
 - (B) vitamin B12
 - (C) pyridoxin
 - (D) tocopherol
- 52 Which one of the following is used as a source of excitation in a confocal microscope?
- (A) lasers
 - (B) electron beam
 - (C) mercury lamp
 - (D) masers
- 53 Excess oxygen consumed after a vigorous exercise is
- (A) to pump out lactic acid from muscle
 - (B) to increase the concentration of lactic acid in muscle
 - (C) to reduce dissolved carbon dioxide in blood.
 - (D) to make ATP for gluconeogenesis
- 54 Which one of the following is a food borne toxin?
- (A) Tetanus toxin
 - (B) Botulinum toxin
 - (C) Cholera toxin
 - (D) Diptheria toxin
- 55 Which organelle occupies maximum volume of plant cell?
- (A) Vacuole
 - (B) Chloroplast
 - (C) Cytosol
 - (D) Mitochondria
- 56 In India, brown antlered deer (sangal) is found only in the floating land masses of
- (A) Wular lake
 - (B) Sasthamkotta lake
 - (C) Dal lake
 - (D) Lok Tal lake

- 57 The National Environment Research Institute is located at
(A) Dehradun
(B) New Delhi
(C) Jaipur
(D) Nagpur
- 58 Mangrove forests in Asia are largely concentrated in
(A) Philippines
(B) Indonesia
(C) Malaysia
(D) India
- 59 The author of Green Development is
(A) M.J. Bradshaw
(B) M. Nicolson
(C) W.M. Adams
(D) R.H. Whittaker
- 60 The final stable community in an ecological succession is called the
(A) final community
(B) ultimate community
(C) climax community
(D) seral community
- 61 The surface waters are susceptible to contamination with microorganisms from _____
(A) the air
(B) the surface runoff
(C) precipitation
(D) atmospheric water and the surface runoff
- 62 Which of the following layer is composed of soft mud or ooze?
(A) Photic zone
(B) Limnetic zone
(C) Benthic zone
(D) Profundal zone
- 63 The characteristic color of the Red Sea is associated with heavy blooms of _____
(A) Diatoms
(B) Cyanobacteria
(C) Dinoflagellates
(D) Chlamydomonas
- 64 Which among the following oceans is the richest in life?
(A) Antarctic Ocean
(B) Atlantic Ocean
(C) Pacific Ocean
(D) Indian Ocean

- 65 The term 'ecosystem' was enunciated by
(A) A.G. Tansley
(B) E.P. Odum
(C) G. Mendal
(D) C.C. Park
- 66 Environmental biotechnology should compete for an environment which is governed by _____
(A) Better quality
(B) Effective marketing
(C) Best practicable environmental option and the best available techniques not entailing excessive cost
(D) Excessive cost
- 67 In which unit of SI system, Gibbs free energy is measured?
(A) Joule
(B) Calvin
(C) Degree Celcius
(D) Degree Fahrenheit
- 68 How many origins of replication are there in a shuttle vector?
(A) 1
(B) 2
(C) 3
(D) 4
- 69 What is used as a treatment for blood clots?
(A) insulin
(B) interferon
(C) urokinase
(D) somatostatin
- 70 Full form of GEAC?
(A) Genetic Ethical Approval Committee
(B) Genetic Engineering Active Commission
(C) Genetic Ethical Active Commission
(D) Genetic Engineering Approval Committee
- 71 Computational method to fit ligand and receptor is called as
(A) Molecular Homology
(B) Molecular Modelling
(C) Molecular fitting
(D) Molecular Docking
- 72 Process which produce cells in animal body for growth and repair
(A) replication
(B) meiosis
(C) mitosis
(D) translation

- 73 At which stage of Cell division, Mendal's law of segregation occurs
- (A) Mitosis(prophase)
 - (B) Meiosis(prophase)
 - (C) Mitosis(anaphase)
 - (D) Meiosis(anaphase)
- 74 Acetabularia is a type of
- (A) Multicellular algae
 - (B) Unicellular algae
 - (C) Fungi
 - (D) Protist
- 75 What is the clinical application of monoclonal antibodies?
- (A) Biosensors
 - (B) Transplant rejection
 - (C) Infectious disease
 - (D) Purification of drugs
- 76 Boiling point of water
- (A) 32°F
 - (B) 98.6°F
 - (C) 212°F
 - (D) 152°F
- 77 Penicillin enrichment technique is used for
- (A) isolation of antibiotic resistant mutant
 - (B) isolation of auxotrophic mutant
 - (C) allelic mutant
 - (D) anticancer drug producing mutant
- 78 Identify Aminoglycoside antibiotic
- (A) Streptomycin
 - (B) Tetracycline
 - (C) Polymyxin
 - (D) Cephalosporin
- 79 Down's syndrome is an example of
- (A) Polyploidy
 - (B) Monosomy
 - (C) Trisomy
 - (D) Nullisomy
- 80 In gas chromatography, gases with less boiling point move at what speed than others ?
- (A) Faster
 - (B) Slower
 - (C) Stable
 - (D) Synchronous

- 81 Which of the following amino acid is most likely to disrupt an alpha helix?
(A) Proline
(B) Leucine
(C) Glycine
(D) Valine
- 82 Thermal death time is
(A) Time required to kill all cells at a given temperature
(B) How long it takes to kill a specific bacterium at a specific temperature
(C) Time and temperature needed to kill all cells
(D) Time to reduce population by 99 % at given temperature
- 83 A lake having enriched amount of nitrites and phosphates is called
(A) Euphotic
(B) Eutrophic
(C) Oligotrophic
(D) Aphotic
- 84 Chemical used for precipitation of RNA during RNA isolation is
(A) Isopropanol
(B) Trizol
(C) Chloroform
(D) TE buffer
- 85 The adapter molecule in protein synthesis is
(A) RNA
(B) mRNA
(C) tRNA
(D) rRNA
- 86 In a bright field upright light microscope, which part is used to adjust amount of light on the specimen?
(A) Diaphragm
(B) Adjustment knob
(C) Lens
(D) Nose piece
- 87 Insulin is produced in the pancreas by _____ cells.
(A) Alpha Cells
(B) Beta Cells
(C) Hepatocytes
(D) Lipocytes
- 88 Human cell contains chromosomes.
(A) 16
(B) 23
(C) 42
(D) 46

- 89 In which phase of meiosis crossing over of genes from two different cells or chromosomes take place?
- (A) Leptotene
 - (B) Diplotene
 - (C) Metaphase
 - (D) Diakinesis
- 90 Hybridoma technology was developed by _____.
- (A) Paul Ehrlich
 - (B) JF Kohler and Cesar Milstein
 - (C) Laszlo Detre
 - (D) Tiselius and Kabat
- 91 How protein gets activated?
- (A) Glycosylation
 - (B) Acetylation
 - (C) Methylation
 - (D) Phosphorylation
- 92 Vaccine that contain live microorganisms is called _____.
- (A) Conjugate Vaccine
 - (B) Subunit Vaccine
 - (C) Toxoid Vaccine
 - (D) Attenuated Vaccine
- 93 Mutations in _____ can lead to tumor formation.
- (A) Oncogenes
 - (B) Tumor suppressor genes
 - (C) Myc oncogene
 - (D) Ras Oncogene
- 94 Programmed cell death is called as _____.
- (A) inflammation
 - (B) pyroptosis
 - (C) necrosis
 - (D) apoptosis
- 95 In T-lymphocytes, T stands for _____.
- (A) Thyroid
 - (B) Tonsils
 - (C) Thymus
 - (D) Thorax
- 96 AIDS disease is characterized by _____.
- (A) Thrombocytopenia
 - (B) Lymphopenia
 - (C) Reduction in helper T cell count
 - (D) Reduction in RBC count

- 97 Human immunodeficiency virus carries _____ as its genetic material.
- (A) single-stranded DNA
 - (B) single-stranded RNA
 - (C) double-stranded DNA
 - (D) double-stranded RNA
- 98 is the quality of a cell or organism having a single set of chromosomes.
- (A) Haploid
 - (B) Diploid
 - (C) Tetraploid
 - (D) Aneuploid
- 99 All of the amino acids that are found in proteins, except for proline, contain a(n)
- (A) amino group.
 - (B) carbonyl group.
 - (C) carboxyl group.
 - (D) ester group.
- 100 CD spectroscopy is mostly used to study _____
- (A) the secondary structure of proteins
 - (B) the quaternary structures of proteins
 - (C) to measure the concentration of proteins
 - (D) to study enzyme kinetics

Technical Assistant
Provisional Answer Key

Q.No	Option	Q.No	Option
1	C	51	D
2	B	52	A
3	A	53	D
4	D	54	B
5	B	55	A
6	A	56	D
7	C	57	D
8	A	58	B
9	B	59	C
10	A	60	C
11	C	61	D
12	B	62	C
13	C	63	B
14	C	64	A
15	A	65	A
16	D	66	C
17	B	67	A
18	B	68	B
19	A	69	C
20	C	70	D
21	A	71	D
22	C	72	C
23	A	73	D
24	B	74	B
25	D	75	D
26	A	76	C
27	B	77	B
28	D	78	A
29	C	79	C
30	B	80	A
31	C	81	A
32	B	82	B
33	C	83	B
34	C	84	A
35	D	85	C
36	A	86	A
37	B	87	B
38	B	88	D
39	A	89	B
40	B	90	B
41	A	91	D
42	C	92	D
43	C	93	B
44	C	94	D
45	A	95	C
46	C	96	C
47	B	97	B
48	B	98	A
49	C	99	A
50	B	100	A