



Gujarat Biotechnology Research Centre

Scientist B Prelim

Application No: _____

This question booklet contains 16 pages

Time: 1 Hours

Total Marks: 100

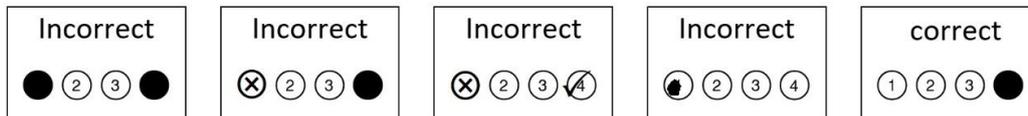
Total Questions: 100

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 નીચેનામાંથી 'યોગ્ય વખતે' શબ્દસમૂહ માટે કયો શબ્દ યોગ્ય છે?
- (A) વહેલાસર
(B) ટાઇમસર
(C) વેળાસર
(D) સવેળાસર
- 2 કાકા, ગાયમાતા ને ખવડાવી શકતા નથી. રેખાંકિત શબ્દનો સમાસ ઓળખાવો.
- (A) કર્મધારય
(B) ક્રન્ધ
(C) તત્પુરુષ
(D) ઉપપદ
- 3 શબ્દસમૂહ માટે એક શબ્દ આપો
સારી રીતે ઘડાયેલું
- (A) સુઘડ
(B) સુંદર
(C) સુશીલ
(D) સુપ્રિય
- 4 સમાનાર્થી શબ્દ આપો.
ઉત્કર્ષ
- (A) આકર્ષણ
(B) ઊંચું
(C) પ્રગતિ
(D) અનાકર્ષણ
- 5 નીચે આપેલાં શબ્દ-જોડકામાંથી કયું શબ્દ-જોડકું સમાનાર્થી છે તે જણાવો :
- (A) દ્રુમ – તરુ
(B) આક્ષેપ – પ્રક્ષેપ
(C) નયન – નજર
(D) પાષાણ – ભીષણ
- 6 વિરુદ્ધાર્થી શબ્દ આપો
એકાંગી
- (A) સર્વાંગી
(B) દ્વિઅંગી
(C) ઉમંગી
(D) અંતાંગી

7 નીચે આપેલ તળપદા શબ્દનો શિષ્ટ શબ્દ, આપેલા વિકલ્પોમાંથી શોધો.

ખાસ્સું

- (A) ખાઈશું
- (B) દૂર
- (C) પુષ્કળ
- (D) ગજવું

8 નીચેના શબ્દની સન્ધિ છોડો.

અધ્યયન

- (A) અક્ર + યન
- (B) અધિ + અન
- (C) અધ્યક્ર + અન
- (D) અધ + અન

9 કર્તરિવાક્ય શોધીને લખો :

મારાથી અજમાવી જોવાશે.

- (A) મેં અજમાવી જોયું.
- (B) હું અજમાવી જોતો હતો.
- (C) હું અજમાવી જોઈશ.
- (D) મેં અજમાવી જોયું હતું.

10 નીચે આપેલ વાક્યોમાં રેખાંકિત શબ્દ કયા કૃદંતનો છે તે શોધો.

નવપલ્લવોને મમતાભરી નજરે નિહાળતા સ્વામીજી સ્વયં એક બોધિવૃક્ષ નથી?

- (A) ભૂતકૃદંત
- (B) વર્તમાનકૃદંત
- (C) હેત્વર્થકૃદંત
- (D) ભવિષ્યકૃદંત

11 Between Ram and Shyam, the _____ is more intelligent.

- (A) last
- (B) later
- (C) latest
- (D) latter

Read the sentences in questions 12 and 13 to find whether there is any error in any part:

12 Hardly ever / see him / because in my opinion / he is not a reliable man.

- (A) hardly ever
- (B) see him
- (C) because in my opinion
- (D) he is not a reliable man.

- 13 Every day / and every night / bring its / own pleasures for every one.
(A) Every day
(B) and every night
(C) bring its
(D) own pleasures for every one.
- 14 The police asked the suspect question after question, _____ he did not open his mouth.
(A) moreover
(B) yet
(C) still
(D) however

In questions 15 and 16, which of the phrases (A), (B), (C) and (D) given below should replace the phrase bold in the following sentences.

- 15 He complained of **being unjustly treatment**.
(A) of being unjustly treated.
(B) for being injustice in treatment.
(C) that unjust treatment being given
(D) for being unjustly treatment.
- 16 Sunita told me that she would not mind **to stand and eating** the lunch.
(A) To stand and eat
(B) Standing and eating
(C) Standing and eat
(D) No improvement
- 17 Put the given sentences in the following question in proper order:
A) They were generally fed in the afternoon.
B) But father said that it was most interesting to see them being fed.
C) Gopal wanted to see the tigers and the lions first.
D) When
(A) ACDB
(B) DCBA
(C) BCDA
(D) CBAD
- 18 He warned the workers against supporting these antisocial policies, which he declared would ____ rather than _____ the plight of the common people.
(A) rescue, destroy
(B) encourage, defy
(C) aggravate, alleviate
(D) empower, improve
- 19 Choose the word/phrase nearest in **meaning** to the underlined part:
Had he delivered his speech without a long and winding preamble, people would have understood him better.
(A) digression
(B) introduction
(C) explanation
(D) background

- 20 Select the word or phrase which is closest to the **opposite** in meaning of the **underlined** word or phrase:
He did it purposely.
(A) half-heartedly
(B) timidly
(C) unintentionally
(D) hesitatingly
- 21 સરદાર વલ્લભભાઈએ વકીલાતની શરૂઆત કયા શહેરથી કરી હતી ?
(A) ગોધરા
(B) અમદાવાદ
(C) નડીયાદ
(D) મહેસાણા
- 22 મુગલકાળ દરમિયાન 'બાબુલ મક્કા' તરીકે કયું શહેર જાણીતું હતું ?
(A) જુનાગઢ
(B) ભાવનગર
(C) સુરત
(D) રાજકોટ
- 23 નેત્રંગ તાલુકો ગુજરાત રાજ્યના કયા જિલ્લામાં આવેલ છે?
(A) અમદાવાદ
(B) ભરૂચ
(C) ખેડા
(D) અરવલ્લી
- 24 શિહોર કયા વ્યાપાર-ઉદ્યોગ માટે જાણીતું છે ?
(A) હસ્તકલા
(B) પેપર ઉદ્યોગ
(C) ચિનાઈ માટીના વાસણો
(D) તાંબા-પિત્તળનાં વાસણો
- 25 ગુજરાત રાજ્યનું લુણેજ ગામ શા માટે જાણીતું છે?
(A) કુદરતી ગેસના ભંડાર
(B) ગરમ પાણીના ઝરા
(C) ખોડીયાર માતાનું પવિત્ર સ્થાનક
(D) ચિત્ર-વિચિત્ર નો મેળો

- 26 _____ પ્રદેશને ગુજરાતનો બગીચો પણ કહેવામાં આવે છે.
- (A) ગીર
(B) ઝાલાવાડ
(C) ચરોતર
(D) ચોરવાડ
- 27 ગુજરાત માછલી ઉત્પાદનમાં ભારતમાં કયા ક્રમે આવે છે?
- (A) પહેલો
(B) પાંચમો
(C) સાતમો
(D) ત્રીજો
- 28 ચિત્ર-વિચિત્રનો મેળો ગુજરાતના કયા તાલુકામાં ભરાય છે ?
- (A) અંબાજી
(B) ખેડબ્રહ્મા
(C) જૂનાગઢ
(D) સુરેન્દ્રનગર
- 29 એક સમયે ઈંડરનો ખરાદી સમુદાય _____ ઉદ્યોગ માટે પ્રખ્યાત હતો.
- (A) માટીનાં વાસણો
(B) કૃષિ
(C) રમકડાં
(D) ભરતકામ
- 30 ભાડભૂતમાં દર કેટલાં વર્ષે મેળો ભરાય છે ?
- (A) અઢાર
(B) પંદર
(C) ઓગણિસ
(D) પાંચ
- 31 કવિ દલપતરામે કોને અનુસરીને સ્થાનવર્ણન અને ઋતુવર્ણનનાં કાવ્યો રચ્યાં છે ?
- (A) બાલાભાઈ દેસાઈ
(B) નર્મદ
(C) કાકસાહેબ કાલેલકર
(D) વિનોદ ભટ્ટ

- 32 ' સાંઢવાળા સાંઢ શણ્ગાર જે રે...' પંક્તિના રચયિતાનું નામ જણાવો.
 (A) કવિ કાન્ત
 (B) અબ્બાસ વાસી
 (C) સુન્દરમ્
 (D) મીરાંબાઈ
- 33 કાન્હા નેશનલ પાર્ક ભારતના કયા રાજ્યમાં આવેલો છે?
 (A) ઉત્તરપ્રદેશ
 (B) આસામ
 (C) મધ્ય પ્રદેશ
 (D) પશ્ચિમ બંગાળ
- 34 બરકતઉલ્લાખાન સ્ટેડીયમ ભારતના કયા રાજ્યમાં આવેલું છે?
 (A) રાજસ્થાન
 (B) મહારાષ્ટ્ર
 (C) પંજાબ
 (D) કર્ણાટક
- 35 ભારતના સૌપ્રથમ ન્યુક્લીઅર રિએક્ટરને કયા નામથી ઓળખવામાં આવે છે?
 (A) સાઈરસ
 (B) અપ્સરા
 (C) ધ્રુવા
 (D) પૂર્ણિમા-1
- 36 According to Beer–Lambert law, Absorbance depends upon:
 (A) length of light path and wavelength of incident light and temperature
 (B) length of light path, molar extinction co-efficient, concentration of absorbing species
 (C) the concentration of the absorbing species and length of light path
 (D) molar extinction coefficient and length of light path
- 37 Vaccination is an example of
 (A) Naturally Acquired Active Immunity
 (B) Artificially Acquired Active Immunity
 (C) Naturally Acquired Passive Immunity
 (D) Artificially Acquired Passive Immunity
- 38 Biomarkers, have a high toxicological
 (A) Competence
 (B) Reactive oxygen species
 (C) Identity
 (D) Relevance

- 39 Which of the statements regarding enzymes is false?
(A) Enzymes are proteins that function as catalysts.
(B) Enzymes are specific.
(C) Enzymes provide activation energy for reactions.
(D) Enzymes may be used many times for a specific reaction.
- 40 Which of the following amino acid is ketogenic?
(A) Glycine
(B) Lysine
(C) Alanine
(D) Valine
- 41 Which of the following is not a benefit of BLAST?
(A) Handling of gaps
(B) Speed
(C) More sensitive
(D) Statistical rigor
- 42 The initiation of FASTA format has _____ symbol.
(A) >
(B) <
(C) /
(D) *
- 43 What is a biological strain?
(A) Genetic variant of the species
(B) Ecological variant of the species
(C) Genetic variant of the genus
(D) Metabolic variant of the species
- 44 Chemically what is vinegar?
(A) Organic acid
(B) Amino acid
(C) Palmitic acid
(D) Inorganic acid
- 45 How many chromosomes are there in single cell of E.coli ?
(A) 2
(B) 1
(C) 3
(D) 7
- 46 In environmental science, metagenomics can be used to access _____
(A) Microbial cell
(B) Microbial colony
(C) Microbial community
(D) Microbial consortium

- 47 Phenoxymethylpenicillin is also known as _____.
- (A) Penicillin G
 - (B) Penicillin F
 - (C) Penicillin V
 - (D) Penicillin K
- 48 Generally how many carbon atoms are there in packing materials of HPLC column?
- (A) 6
 - (B) 12
 - (C) 18
 - (D) 24
- 49 How long does intellectual property last posthumously?
- (A) 10 yrs
 - (B) 30 yrs
 - (C) 60 yrs
 - (D) 70 yrs
- 50 Vinegar is _____
- (A) produced by oxidation of alcohol to acetic acid
 - (B) produced by reduction of alcohol to acetic acid
 - (C) conversion of pyruvic acid to propionic acid
 - (D) conversion of lactic acid to acetic acid
- 51 Kary Mullis was awarded Nobel Prize for _____
- (A) Developing in vitro technique for Amplification of DNA
 - (B) RFLP technique
 - (C) Nucleotide sequencing technique
 - (D) DNA microarrays
- 52 BCG vaccine is used for immunization against _____
- (A) Typhoid
 - (B) Tuberculosis
 - (C) Cholera
 - (D) Polio
- 53 Which one is not an example of biomass as fermentation product?
- (A) Baker's yeast
 - (B) Biofertilizer
 - (C) Single cell protein
 - (D) Penicillin
- 54 How many hydrogen atoms are required to fix one molecule of atmospheric nitrogen?
- (A) 2
 - (B) 4
 - (C) 6
 - (D) 1

- 55 The process of snow and ice, changing into water vapor in the air without first melting into water is known as ____.
- (A) Vaporization
 - (B) Melting
 - (C) Smelting
 - (D) Sublimation
- 56 Which instrument is used to check packed-cell volume?
- (A) Haemocytometer
 - (B) Centrifuge
 - (C) Colorimeter
 - (D) Microscope
- 57 How much ethanol is there in rectified spirit?
- (A) 90%
 - (B) 95%
 - (C) 97%
 - (D) 99.99%
- 58 What is the utmost necessity for working of an electron microscope?
- (A) Light
 - (B) Vacuum
 - (C) Air
 - (D) Computer
- 59 Which are the types of bioenergy?
- (A) Animal energy and chemical energy
 - (B) Solar energy and nuclear energy
 - (C) Fossil fuels and solar energy
 - (D) Animal energy and biofuels
- 60 Electrophoresis was developed by ____?
- (A) Tswett
 - (B) Tsvetberg
 - (C) Sanger
 - (D) Tiselius
- 61 Fat Soluble vitamin is
- (A) Vitamin C
 - (B) Vitamin D
 - (C) Vitamin B
 - (D) Vitamin B12
- 62 BCG vaccine is an example of
- (A) Conjugate
 - (B) Toxoid
 - (C) Attenuated
 - (D) Inactivated

- 63 Which of the following diseases has been eradicated?
(A) Smallpox
(B) Rinderpest
(C) Polio
(D) All of the above
- 64 What is Fermentation?
(A) Fermentation is an anaerobic process which transforms the sweet juices into an alcoholic drink
(B) Fermentation is an aerobic process which transforms the sweet juices into a non-alcoholic drink
(C) Fermentation is an anaerobic process which transforms the sweet juices into a non-alcoholic drink
(D) Fermentation is an anaerobic process which transforms the non carbohydrate juices into an alkaline drink
- 65 In which year production of transgenic fish was initiated and claimed?
(A) 1987
(B) 1986
(C) 1988
(D) 1985
- 66 How many percentage of Zebrafish genes are known to be associated with human diseases as zebrafish counterpart
(A) 80%
(B) 50%
(C) 84%
(D) 70%
- 67 National fish of India
(A) *Rastrelliger brachysoma*
(B) *Rastrelliger faughni*
(C) *Rastrelliger indiana*
(D) *Rastrelliger kanagurta*
- 68 Which chemical reduces annealing temperature of primer
(A) Buffer
(B) Water
(C) PEG
(D) Formamide
- 69 Which type of RNA degrades more rapidly
(A) 28S rRNA
(B) 18S rRNA
(C) mRNA
(D) tRNA
- 70 Blue biotechnology includes
(A) Agriculture biotechnology
(B) Marine biotechnology
(C) Food biotechnology
(D) Milk biotechnology

- 71 Purine is
(A) Bicyclic
(B) Monocyclic
(C) Uracil
(D) Present only in DNA
- 72 An effective hand sanitizer contains at least this percentage of alcohol to kill the coronavirus and other germs.
(A) 30%
(B) 45%
(C) 60%
(D) 80%
- 73 Breathing is controlled by _____ of the brain.
(A) Cerebral cortex
(B) Cerebellum
(C) Thalamus
(D) brainstem
- 74 The best resolution obtained in an electron microscope is –
(A) 0.2 m - 0.4 m
(B) 0.5 nm – 1 nm
(C) 0.2 mm – 0.5 mm
(D) 5 nm – 10 nm
- 75 The three-dimensional structure of a protein is determined primarily by:
(A) Electrostatic guidance from nucleic acid structure.
(B) The sequence of amino acids in the protein.
(C) How many amino acids are in the protein.
(D) Hydrophobic interaction with lipids that provide a folding framework.
- 76 When the linear form of glucose cyclizes, the product is a(n):
(A) anhydride
(B) glycoside
(C) hemiacetal
(D) lactone
- 77 Name the hydrophobic product formed after the catalyses of PIP₂ by Phospholipase
(A) IP₃
(B) DAG
(C) cAMP
(D) cGMP
- 78 Thyroid hormone is a _____ hormone?
(A) Peptide
(B) Amine
(C) Steroid
(D) Protein

- 79 Which of the following is called the scavenger of the brain
(A) Microglia
(B) Astrocytes
(C) Oligodendrocyte
(D) Schwann cell
- 80 Which vaccine prevents uterine cervical cancer?
(A) Sipuleucel-T
(B) HBV
(C) BCG
(D) Gardasil 9
- 81 Who is the Father of Medical Microbiology?
(A) Louis Pasteur
(B) Robert Koch
(C) Antony Van
(D) Edward Jenner
- 82 _____ are circular DNA molecules that replicate separately from the host chromosome.
(A) Vector
(B) Mitochondria
(C) Probe
(D) Plasmids
- 83 Vitamin E is also called as _____ .
(A) retinol
(B) cholecalciferol
(C) tocopherols
(D) dolichols
- 84 _____ is the use of biotechnology in the medical and pharmaceutical industries, and health preservation.
(A) Red Biotechnology
(B) Gray Biotechnology
(C) Dark Biotechnology
(D) Brown Biotechnology
- 85 Chromosome structure can be observed best during ____
(A) Interphase
(B) Anaphase
(C) Prophase
(D) Metaphase
- 86 Plant cells are totipotent means _____
(A) It has power of development of shoot from the callus
(B) It has power of development of root from the callus
(C) It has power of dedifferentiation and re-differentiation
(D) It can produce flower and fruits in vitro

- 87 Mendel conducted hybridization experiments with _____
(A) chick pea
(B) garden pea
(C) pigeon pea
(D) wild pea
- 88 Cytochrome is
(A) Metallo flavo protein
(B) Fe containing porphyrin pigment
(C) Glycoprotein
(D) Lipid
- 89 Which one of the following is used for RNA isolation?
(A) CPED
(B) PCAD
(C) DEPC
(D) EDPC
- 90 In N fixation, electron donor is
(A) Water
(B) Ferrocynide
(C) Ferodoxin
(D) CO₂
- 91 Photorespiration occurs in
(A) Plastids
(B) Mitochondria
(C) Nucleus
(D) ER
- 92 If concentration of calcium is more within the cell than outside by which mode calcium uptake take place
(A) Passive transport
(B) Active transport
(C) Diffusion
(D) Osmosis
- 93 An amino acid devoid of a free COOH group can be an _____
(A) Amine
(B) Amide
(C) Imine
(D) Purine
- 94 Gibberellins promote _____
(A) Seed germination
(B) Seed dormancy
(C) Leaf fall
(D) Root elongation

- 95 Carbon dioxide enters the photosynthetic pathway in _____
(A) PS I
(B) PS II
(C) Light reaction
(D) Dark reaction.
- 96 'The law of limiting factors' was proposed by _____
(A) Leibig
(B) Hatch and Slack
(C) Blackman
(D) Arnon
- 97 The substrate for photorespiration is _____
(A) Phosphoglyceric acid
(B) Glycolate
(C) Serine
(D) Glycine
- 98 The first carbon dioxide acceptor in C₃-plants is _____
(A) Phosphoenol-pyruvate
(B) Ribulose 1, 5-diphosphate
(C) Oxalo-acetic acid
(D) Phosphoglyceric acid
- 99 Minerals absorbed by root move to the leaf through _____
(A) Xylem
(B) Phloem
(C) Sieve tubes
(D) Epidermal cells
- 100 Greatest producers of organic matter are _____
(A) Crop plants
(B) Forests
(C) Plants of the land area
(D) Phytoplankton of oceans

Scientist B Prelims

Biotechnology

Provisional Answer Key

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