TEST SERIES CSIR-NET/JRF DEC. 2018

BOOKLET SERIES D

FULL LENGTH TEST - I

Paper Code 03 **Test Type: TEST SERIES**

LIFE SCIENCES

Duration: 3:00 Hours **Date: 05-12-2018**

Maximum Marks: 200

Read the following instructions carefully:

* Single Paper Test is divided into **THREE** Parts.

Part - A: This part shall carry **15** questions. Each question shall be of **2 marks.**

Part - B: This part shall carry **35** questions. Each question shall be of **2 marks.**

Part - C: This part shall contain **25** questions. Each question shall be of **4 marks**.

* Darken the appropriate bubbles with HB pencil/Ball Pen to write your answer.

* There will be negative marking @25% for each wrong answer.

* The candidates shall be allowed to carry the Question Paper Booklet after completion of the exam.

* For rough work, blank sheet is attached at the end of test booklet.

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PART-A

1. A 84 m long train crosses a bridge 116 m long and 30 m wide in 10 secs. What is the speed of the train in km/hr ?
(a) 54 (b) 72 (c) 50 (d) 90

2. Below is given a square of side 10 cm and each time mid points of the adjacent sides are connected and formed a new square and it is repeated as much time as possible. What is the total area of all the squares formed ?

(a) 300 cm^2 (b) 400 cm^2 (c) 200 cm^2 (d) 320 cm^2

3. What is the number of diagonals in a regular decagon ?
(a) 50 (b) 45 (c) 35 (d) 20

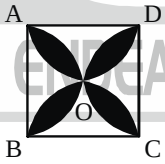
4. There are 12 bags of sugar identical in all respect, except for weight of one bag. One bag is slightly heavier than other bags. You are given a conventional weighing balance and you have to determine which one is the heavier one. The minimum number of times the weighing balance has to be used to identify the heavier one surely is
(a) 3 (b) 4 (c) 5 (d) 6

5. What is the total number of triangles in the given figure ?

(a) 14 (b) 32 (c) 20 (d) 28

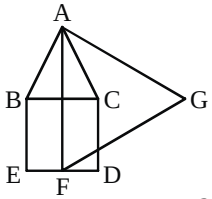
6. What should be the ratio of milk to water in the mixture of milk and water to gain a profit of 20% by selling the mixture at cost price of pure milk ? [Provided water is available free of cost]
(a) 4 : 1 (b) 6 : 1 (c) 5 : 1 (d) 3 : 2

7. If the side of the square ABCD is 14 cm, then what is the total area of the shaded region in the figure ?



(a) 112 cm^2 (b) 98 cm^2 (c) 196 cm^2 (d) 100 cm^2

8. ΔABC is a equilateral triangle with side of 6 cm and $\square BCDE$ is a square as shown in the figure. Now, ΔAFG is a equilateral triangle as shown in the figure. What is the approximate area of ΔAFG ? [Given : $\sqrt{3} = 1.7$]



(a) 64 cm^2 (b) 54 cm^2 (c) 45 cm^2 (d) 36 cm^2

9. Ramu is 8^{th} from the left of a line and Monu is 9^{th} from the right of the line. What is the number of students between them ?
(a) 7 (b) 6 (c) 8 (d) 9

10. At what time between 5 a.m. and 6 a.m., the minute hand and hour hand of a clock would coincide ?
(a) 5 : 27 : 16 a.m. (b) 5 : 38 : 12 a.m. (c) 5 : 35 : 10 a.m. (d) 5 : 25 : 20 a.m.

11. Population of a village in 2010 increased by 50% and in 2011 increased by 20% and in 2012 it decreased by 50%. What is the overall percentage increase or decrease of population as compared to the initial population of the village.
(a) 10 % (b) 20 % (c) 25 % (d) 5 %

12. The sum of a two digit number and the number obtained by reversing its digit is a square number. How many such numbers are there ?
(a) 6 (b) 8 (c) 12 (d) 15

13. Pointing to a photograph of Ram, a lady says, "He is the father of the son of my mother's only daughter". How is Ram related to the lady ?
(a) Brother (b) Husband (c) Uncle (d) Brother-in-law

14. A is twice as efficient as B while B is thrice as efficient as C. If A can do a work in 10 days, then in how many days A, B and C working together can complete the work ?
(a) 7 (b) 9 (c) 5 (d) 6

15. Of the following which one is odd one out ?
(a) ellipsoid (b) circle (c) sphere (d) cone

PART-B

16. Flagella might have arisen through the ingestion of
(a) Cyanobacteria (b) Spirochetes
(c) Chlamydomonas (d) Paramecium

17. If all members of a population are homozygous for the same allele, that allele is said to be
(a) Fixed in gene pool (b) Mobile in gene pool
(c) Random in gene pool (d) Stationary in gene pool

18. If we consider Hardy-Weinberg law, then following is incorrect in its sense
(a) Mutations cause changes in genetic frequency
(b) Migration changes allelic frequency
(c) There should not be selection
(d) Non-random mating will reduce chances of evolution

19. Which of the following statement correctly explain the macrocyclic fungi?
(a) It needs two different host to complete its life-cycle
(b) It needs production of many types of spores to complete the life-cycle
(c) Sexual reproduction does not occur
(d) None of the above

20. In platyhelminthes, the organ of excretion and osmoregulation are
(a) Protonephridia (b) Flame cells
(c) Nephridia (d) Both (a) and (b)

21. In which form slime molds differ from the modly fungi?
(a) In their mode of nutrition, phagocytosis for the slime molds, absorptive heterotrophs for moldy fungi
(b) In that the moldy fungi produce amoeboid or flagellated cells and the slime molds do not
(c) Both (a) and (b)
(d) None of the above

22. If a cell is exposed to cyanide, most of the cyanide will be found within the
(a) Mitochondria (b) Ribosomes
(c) Peroxisomes (d) Lysosomes

23. If a paramecium swims from a hypotonic to an isotonic environment, its contractile vacuole beomes
(a) More active (b) Less active
(c) Remains the same (d) None of the above

24. Uncouplers
(a) breaks the link between electron transport chain and oxidative phosphorylation
(b) inhibits the electron transport chain in inner membrane of mitochondria
(c) inhibits oxidative phosphorylation by inhibiting the F0 subunit of ATP synthase, but doesn't affect the electron transport chain
(d) break the link between glycolysis and TCA cycle by binding with Acetyl-CoA in Mitochondrial matrix

25. Glycogen
(a) contains equal number of Reducing (R) and Non-reducing ends (NR)
(b) contains one Reducing (R) end and multiple Non-reducing ends (NR)
(c) contains one Non-reducing (NR) end and multiple Reducing ends (R)
(d) contains multiple Non-reducing (NR) ends and no Reducing end (R)

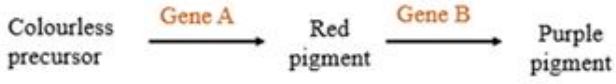
26. Enzymes are nowadays used extensively in bio-processing industries. Enzyme 1 is used for treatment of hides to provide a finer texture, in leather processing and manufacture of glue. Enzyme 2 is used for clarification of fruit juices.
Identify enzyme 1 and 2

	Enzyme 1	Enzyme 2
(a)	Amylase	Pectinase
(b)	Protease	Amylase
(c)	Protease	Pectinase
(d)	Pectinase	Amylase

27. Blood group type A and B antigen are complex oligosaccharide which differs from H antigen present in type O individuals in Human RBC. Which of the following is true for A and B antigens?
(a) Extra terminal sugar, N-acetyl galactosamine in A antigen and galactose in B antigen respectively
(b) Extra terminal sugar, galactose in A antigen and N-acetyl galactosamine in B antigen respectively
(c) Extra terminal sugar, galactose in both A antigen and B antigen respectively
(d) Extra terminal sugar, glucose in both A antigen and B antigen respectively

28. Which of the following genetic method can be used to differentiate mutations in the same gene or in two different genes?
(a) Test cross (b) Reciprocal cross
(c) Complementation cross (d) Back cross

29. Following is the biochemical pathway for the pigment formation in flower of a plant



Presence of A and B allele produce purple pigment flower. However, mutation in B results red pigment and mutation in A results in white colourless flower inspite of the presence of the B allele. Which of the following is true for the genetic phenomenon?

(a) Dominant epistasis (b) Recessive epistasis

(c) Complementary gene (d) None of the above

30. Both husband and wife have normal vision though their fathers were colour blind. The probability of their daughter becoming colour blind is

(a) 0% (b) 25% (c) 50% (d) 75%

31. In mitochondria, exergonic redox reactions

(a) Are the source of energy driving prokaryotic ATP synthesis.

(b) Provide the energy that establishes the proton gradient.

(c) Reduce carbon atoms to carbon dioxide.

(d) Are coupled via phosphorylated intermediates to endergonic processes.

32. In mechanism, photophosphorylation is most similar to

(a) Substrate-level phosphorylation in glycolysis.

(b) Oxidative phosphorylation in cellular respiration.

(c) Carbon fixation.

(d) Reduction of $NADP^+$.

33. Altruistic behaviours between closely related animals

(a) Force individuals to cooperate with one another and thereby increase population growth

(b) Increase the frequency of the altruistic genes in the next generation

(c) Reduce cooperation between species

(d) Ensure the survival of the altruistic individual but not his close relatives

34. Tinbergen's male stickleback fish would attack models of other males if the models had

(a) A wide gaping mouth

(b) A red underside

(c) A fat pregnant profile

(d) The exact full shape of a normal stickleback fish

35. Questions concerned with proximate causation of a behaviour would focus on –

(a) Its evolutionary origin using comparative methodology

(b) Its genetic origin using recombinant DNA techniques

(c) Its immediate cause and effect using experimentation

(d) Its ancestry using a clado gram

36. At first puppies crouch in fear when a leaf flutters overhead. Later they learn to disregard it. This mode of learning is termed

(a) Imprinting (b) Habituation

(c) Classical conditioning (d) Reasoning or insight learning

37. When many female seals gather on a small island so the few dominant males can gain access and defend their groupings of females, this represents –

(a) Resource defense polygyny (b) Female defense polygyny

(c) Male defense polyandry (d) Male dominance polygyny

38. Which statement is correct about Niewkoop'scentre?
(a) Dorsal most vegetal cells induce formation of Dorsal lip of blastopore (DLB)
(b) DLB induces the Niewkoop centre
(c) Niewkoop's centre induces ectoderm cell to form DLB
(d) None of the above

39. During embryonic development gonads develop from the
(a) ectoderm (b) endoderm
(c) mesoderm (d) both mesoderm and endoderm

40. Tick the statements, which are correct for PTTH/Brain hormone?
A) It stores in corpora allatum
B) It acts on prothoracic gland to activate ecdysone
C) It is secreted by neuro-secretory cells
D) None of the above
(a) only A (b) A and B only
(c) B and C only (d) D only

41. The extra embryonic membranes of the mammalian embryo are derived from
(a) trophoblast (b) inner cell mass
(c) formative cells (d) follicle cells.

42. Grey crescent is the area
(a) at the point of entry of sperm into ovum
(b) Just opposite to the site, of entry of sperm into ovum
(c) at the animal pole
(d) at the vegetal pole

43. Which of the following modes of DNA replication are used by bacteria?
(a) Rolling circle (b) Theta replication
(c) Bidirectional replication (d) All of the above

44. A researchers wanted to study gene expression in the puffs region of polytene chromosome. Which of the following molecules can be used to labelled the newly synthesised RNA molecules?
(a) Radioactive, ^{3}H Thymine (b) Radioactive, ^{2}H Thymine
(c) Radioactive, ^{3}H Uracil (d) Radioactive, ^{2}H Uracil

45. In terms of lac operon regulation, which of the following is true for the E. coli grown in medium containing both glucose and lactose?
(a) Both CAP and the lac repressor are bound to the DNA.
(b) CAP is bound to the DNA but the lac repressor is not.
(c) Lac repressor is bound to the DNA but CAP is not.
(d) Neither CAP nor the lac repressor is bound to the DNA.

46. Nucleoid in prokaryotes is made up of ……
(a) DNA only (b) DNA + histones
(c) DNA + proteins + RNA (d) Proteins + RNA

47. Modification of histone tails is associated with regulation of the gene expression in eukaryotes. Which of the following histone marks are associated to the euchromatin region of chromosomes?
(a) H3H27me3 (b) H3K4ac
(c) H3K9me3 (d) H4R4ac

48. Match the pathogenic microorganisms in Group I with the diseases listed in Group II

Group I	Group II
P. *Treponema pallidum*	1. Whooping cough
Q. *Bordetella pertussis*	2. Yellow fever
R. *Flaviviruses*	3. Kala azar
S. *Leishmania donovani*	4. Syphilis

(a) P-1, Q-4, R-3, S-2 (b) P-4, Q-1, R-2, S-3
(c) P-4, Q-2, R-3, S-1 (d) P-1, Q-3, R-2, S-4

49. The antigen binding sites in immunoglobulin IgG are present at
(a) variable region of heavy chains (b) variable region of light chains
(c) constant region of heavy chains (d) constant region of light chains

50. The action potential for initiating and maintaining the rhythmic contraction of heart is generated by
(a) sino-atrial node (b) atrio-ventricular node
(c) bundle of His (d) atrio-ventricular bundle

PART-C

51. Which is NOT a step in the emergence of life proposed in the Oparin-Haldane hypothesis?
(a) Lighting sparked chemical reactions among simple organic compounds in the primordial soup.
(b) Molecules began copying themselves, using other molecules in the primordial soup as building blocks.
(c) Photosynthesis supplied the oxygen necessary for self-copying molecules to thrive and form membranes.
(d) Self-copying molecules ate the primordial soup.

52. Why did it take millions of years for life to appear on Earth after the planet had formed?
(a) The planet had cooled down enough to sustain life.
(b) The planet had warmed up enough to sustain life.
(c) Life on Earth could begin only when seedlings arrived on our planet from other worlds.
(d) It took millions of years for RNA to replace DNA.

53. Darwin realized that economist Malthus's theory of population control
(a) Applied only to humans
(b) Could be generalized to any population of organisms
(c) Could be generalized only when populations lived in crowded conditions
(d) Explained why the number of deaths exceeded that of birth

54. Match the following

p) *Wolffia globosa*	(i) Largest plant
q) *Eucalyptus* species	(ii) Largest flower
r) *Rafflesia arnoldii*	(iii) Smallest plant
s) *Agave* species	(iv) Largest inflorescence

(a) p-(i), q-(ii), r-(iii), s-(iv) (b) p-(iii), q-(ii), r-(i), s-(iv)
(c) p-(iii), q-(i), r-(iv), s-(ii) (d) p-(iii), q-(i), r-(ii), s-(iv)

55. How would having a fever affect body processes that involve diffusion?
(a) Fever involves an increase in body temperature due to which the rates of all diffusion processes would decrease.
(b) Fever involves an increase in body temperature due to which the rates of all diffusion processes would increase.

(c) The invading virus that causes fever competes for the membrane associated receptors that plays a crucial role in diffusion.

(d) Fever has no effect in the process of diffusion.

56. A bacterium divides every 0.5 hours to yield four bacterial cells (three dividing and one non-dividing). A culture containing 200 dividing cells is grown for 6 generations. What will be the number of bacterial cells in the culture at the end of the experiment?

(a) 1.2×10^4 (b) 8.1×10^5

(c) 1.4×10^5 (d) 4.8×10^4

57. Two homozygous individuals (P1 and P2), were genotyped using dominant DNA markers A and B, as shown below. The F1 progeny obtained was test crossed and frequency of progeny with which different genotypes appear, is given below:

	P1	P2	F1 progenies	Progenies of test cross and their frequencies			
Markers				42	42	8	8
A	—		—	—		—	
B		—	—		—	—	

Profile of DNA Markers after gel electrophoresis

The following conclusions were made:

A. In the F1, markers A and B are linked and in coupling phase (cis)

B. In the F1, markers A and B are linked and in repulsion phase (trans)

C. The distance between A and B is 16cM

D. The distance between A and B is 8cM

Which of the above conclusions are correct?

(a) A and C (b) A and D (c) B and C (d) B and D

58. A student purifies new enzyme, during purification she observed the data given below in the table, find which of the purification procedure is most and least effective respectively.

	Procedure	Total Protein (mg)	Activity (units)
i)	Crude extract	20,000	4000,000
ii)	Salting out	10,000	3000,000
iii)	pH precipitation	5,000	2000,000
iv)	DEAE Sepharose anion exchange chromatography	200	800,000
v)	Affinity chromatography	50	750,000
vi)	Size exclusion chromatography	40	600,000

(a) (i) and (vi) (b) (v) and (vi)

(c) (iv) and (ii) (d) (iv) and (vi)

59. Concentration of a purified enzyme is 10 mg/mol $10\mu l$ of the enzyme solution in a total reaction volume of 1 ml. Catalyses the formation of 20 nanomoles of product in on minute under optimum conditions. The specific activity of the enzyme is

(a) 0.2 unit/mg (b) 0.45 unit/mg

(c) 0.1 unit/mg (d) 0.3 unit/mg

60. A peptide when hydrolysed with trypsin and CNBr produces the following peptide fragments, what will be the sequence of intact peptide

i) Trypsin: Cys-Ala-Gln, Phe-Trp-Met-Gly-Ala-Lys and Leu-Pro-Met-Asp-Gly-Arg

ii) CNBr : Gly-Ala-Lys-Leu-Pro-Met, Phe-Trp-Met and Asp-Gly-Arg-Cys-Ala-Gln

(a) Gly-Ala-Lys-Leu-Pro-Met-Phe-Trp-Met-Asp-Gly-Arg-Cys-Ala-Gln

(b) Leu-Pro-Met-Asp-Gly-Arg-Phe-Trp-Met-Gly-Ala-Lys-Cys-Ala-Gln

(c) Phe-Trp-Met-Gly-Ala-Lys-Leu-Pro-Met-Asp-Gly-Arg-Cys-Ala-Gln

(d) Gly-Ala-Lys-Leu-Pro-Met-Asp-Gly-Arg-Phe-Trp-Met-Cys-Ala-Gln

61. If radioactive ($^{14}CO_2$) is used in calvin cycle then which carbon of 3-PGA (3-phosphoglyceric acid) will appear radioactive

(a) Carbon-3 (b) Carbon-1

(c) Carbon-2 (d) All carbons will be radioactive

62. Dosage compensation is a genetic phenomenon in human female somatic cells. Human males are heterogametic having X and Y chromosome, however the females are homogametic with two X chromosomes. Despite the presence of the one extra X chromosome the female has balanced level of X-linked genes expression. Which of the following is true to explain the genetic mechanism of dosage compensation?

(a) The X chromosome in males are double activated to compensate the female two X chromosome.

(b) Some X-linked genes are also present in the Autosomes of males to compensate the two X chromosome in females.

(c) The extra X chromosome in females are heterochromatinised to suppress the expression of the X-linked genes.

(d) Human male Y chromosome has genes to compensate the two X chromosome of the female.

63. Two different genes controlling the same phenotypes are isolated independently. The two mutants were crossed. Which of the following combinations of the offsprings in F1 are possible?

(a) All are mutant (b) All are normal

(c) 50% mutants and 50% normal (d) 75 % normal and 25% mutants

64. Mendel crossed tall plants with dwarf ones. The F1 plants were all tall. When these plants were selfed, he got a 3:1 ratio of tall and dwarf plants in the F2 generation. What is the probability that he got one tall and one dwarf out of the two plants he selected randomly?

(a) 1/16 (b) 3/8 (c) 2/16 (d) 3/64

65. Number of different Ab genes for humans are given in table below :

		L – chain	
Gene segment	H – chain	κ	λ
V	51	40	30
D	27	0	0
J	6	5	4

Assuming only combinatorial joining of L & H-chains, total possible number of Ab combinations that can be generated will be?

(a) 8×10^9 (b) 4×10^{10} (c) 2.6×10^6 (d) 3.5×10^7

66. Consider following statements about action of CD8 T-cells –

P. They kill target cells using granzyme – B & perforin mediated pathway.

Q. They also use Fas-Fas L interaction to initiate apoptosis in target cells.

R. CD8 T-cells with gld/gld mutation will fail to induce Fas-Fas L mediated apoptsis in target cells.

(a) P only (b) P & Q but NOT R (c) Q & R but NOT P (d) P, Q & R

67. Many viruses produce cytokine mimics to evade host immune responses. Given below are some such matches –

	Virus	**Cytokine or receptor mimic**
P.	Poxviruses	Soluble IFN-γ receptor
Q.	Smallpox virus	Soluble IL-1β receptor
R.	Vaccinia virus	IFN-α homolog
S.	Human herpes virus – 8	IL-2 homolog

Correct matches among above are -

(a) P, R (b) P, Q (c) Q, S (d) R, S

68. Given below are some statements regarding autoimmunity -

P. T_H1 cells have been associated with development of autoimmunity

Q. Injection of experimental animals with IL-12 will reduce the induction of autoimmunity

R. Individuals with pernicious anemia develop auto Abs to intrinsic factor

S. A loss of function mutation in gene for Fas can increase the rate of apoptosis

Find incorrect statements :

(a) P, Q (b) Q, R (c) Q, S (d) R, S

69. Consider following statements about vaccines –

P. Transplacental transfer of maternal IgG Abs against measles confers short-term immunity on the fetus.

Q. A disadvantage of DNA vaccines is that they do not generate significant immunologic memory.

R. Macromolecules generally contain a large number of potential epitopes.

S. Attenuated vaccines are more likely to induce humoral response than inactivated ones.

Find correct statements :

(a) P, Q, R (b) R, S (c) P, R (d) Q, R, S

70. Match the following in correct order:

List A	**List B**
1. Western blotting	A) DNA-DNA hybrid
2. Northern blotting	B) Southern blotting
3. Southern blotting	C) Western blotting
4. DNA fingerprinting	D) RNA-DNA hybrid
	E) Antigen-antibody reaction

(a) 1-D, 2-A, 3-B, 4-C (b) 1-A, 2-E, 3-B, 4-C

(c) 1-E, 2-D, 3-A, 4-B (d) 1-A, 2-B, 3-C, 4-E

71. Some of the maternal gene products deposited in the oocyte of drosophila that are critical in the establishment of the anterior, posterior , terminal and dorso/ventral axis are described below:

A) Bicoid mRNA is distributed in the anterior end of the oocyte and suppresses the formation of anterior structures.

B) Nanos mRNA is localised to the anterior end and promotes the formation of anterior structures

C) The torso receptor protein is found in the membrane and is activated by the ligand binding at either end of the oocyte .it causes the formation of the structure which is found only at the ends of the organisms

D) The toll receptor protein is activated by the ligand binding at the ventral side of the embryo and establishes the dorso/ventral axis

E) The Torso and Toll receptor proteins are distributed throughout the plasma membranes of the oocyte and embryo, but they are activated by ligand binding only in the terminal and ventral regions respectively

Which of the following statements are correct?

(a) A and B (b) C, D and E

(c) Only C and D (d) Only C and E

72. Pollen incompatibility in plant is controlled by S-locus that has three alleles S1, S2 and S3. Following are the statements about the Pollen incompatibility in plants.

A) gametophytic incompatibility for S1S2 plant pollens with S1S2 female stigma.

B) All the pollens from S1S2 plant showsgametophytic incompatibility with S2S3 female stigma.

C) All pollens from S1S2 plant shows sporophytic incompatibility S1S1 female stigma.

D) half pollen from S1S2 plant pollens shows sporophytic incompatibility with S2S3 female stigma and half are compatible to S2S3 female stigma.

Which of the above statements are CORRECT?

(a) A, B (b) B, C (c) A, C (d) A, D

73. A female plant with the genotype A1A1 is cross fertilized to the male plant of the genotype B2B2. Double fertilization in Angiosperm is unique which form endosperm and embryo after the fertilization of male and female gametes. Which of the given statements is CORRECT for the given cross fertilization?

(a) Endosperm-A1B2; Embryo-A1B2 (b) Endosperm-A1B2B2; Embryo-A1B2

(c) Endosperm-A1A1B2; Embryo-A1A1B2 (d) Endosperm-A1A1B2; Embryo-A1B2

74. Capping of 7-methylguanosine residue at the 5' end of the pre mRNA transcripts is characteristic features of eukaryotic mRNA. Which of the following statements are NOT CORRECT about the 5' capping in eukaryotes?

A) During the capping the γ-phosphate are released from the 5' end of the nascent RNA.

B) During the capping process an unsual 5'-5' phosphate linkage is formed between the β-phosphate of the nascent RNA and α-phosphate of the GTP

C) 5' capping happens after the completion of transcription.

D) 5' cap protects the mRNA from the 5'-exoribonuclease enzyme.

(a) A, C (b) B, C (c) C only (d) C, D

75. A researcher isolated three DNA polymerase enzymes from E. coli. However, the enzymes were not labeled properly. So, in order to identify the enzymes A, B, and C, following experiments were performed and the data are provided below in the table.

	A	B	C
Initiation of chain synthesis	−	−	−
5′–3′ polymerization	+	+	+
3′–5′ exonuclease activity	+	+	+
5′–3′ exonuclease activity	+	−	−

The enzyme A is

(a) DNA polymerase I
(b) DNA polymerase II
(c) DNA polymerase III
(d) DNA polymerase IV

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[ANSWER KEY]

PART-A

1. (b)	**2.** (c)	**3.** (c)	**4.** (a)	**5.** (b)
6. (c)	**7.** (a)	**8.** (b)	**9.** (b)	**10.** (a)
11. (a)	**12.** (b)	**13.** (b)	**14.** (d)	**15.** (d)

PART-B

16. (b)	**17.** (a)	**18.** (d)	**19.** (b)	**20.** (b)
21. (a)	**22.** (a)	**23.** (b)	**24.** (a)	**25.** (b)
26. (c)	**27.** (a)	**28.** (c)	**29.** (b)	**30.** (a)
31. (b)	**32.** (b)	**33.** (b)	**34.** (b)	**35.** (c)
36. (b)	**37.** (b)	**38.** (a)	**39.** (c)	**40.** (a)
41. (a)	**42.** (b)	**43.** (d)	**44.** (c)	**45.** (d)
46. (c)	**47.** (b)	**48.** (b)	**49.** (a)	**50.** (a)

PART-C

51. (c)	**52.** (a)	**53.** (b)	**54.** (d)	**55.** (b)
56. (c)	**57.** (c)	**58.** (d)	**59.** (a)	**60.** (c)
61. (b)	**62.** (c)	**63.** (_)	**64.** (b)	**65.** (c)
66. (d)	**67.** (b)	**68.** (c)	**69.** (c)	**70.** (c)
71. (b)	**72.** (c)	**73.** (d)	**74.** (c)	**75.** (a)