

1	Vladimir Putin assumed the position as Russian President for the fourth term since					
	a)2008	b) 2012	c)2018	d)2020	c	2018
2	The Hornbill Festival, the 'Festivals of Festivals' is an annual cultural fest of					
	a)Nagaland	b)Dehradun	c)Arunachal Pradesh	d)Meghalaya	a	Nagaland
3	The national anthem of Srilanka, 'Sri Lanka Matha' was written and composed by					
	a) Rabindranath Tagore	b) Ananda Samarakoon	c) Muruggapillai Nallathambi	d) Sandagomi Coperahewa	b	Ananda Samarakoon
4	The present Director-General of the World Health Organization is					
	a)Amina Jane Mohammed	b)António Guterres	c)Munir Akram	d)Tedros AdhanomGhebreyesus	d	Tedros AdhanomGhebreyesus
5	No Question					1 mark for all
6	NO Question					1 mark for all
7	Normal rainwater is acidic due to the presence of					
	a) CO <sub>2</sub>	b) SO <sub>2</sub>	c) HNO <sub>3</sub>	d) H <sub>2</sub> SO <sub>4</sub>	a	CO <sub>2</sub>
8	The present Governor of Reserve Bank of India is					
	a) Sri Shaktikanta Das	b) Sri M. K. Jain	c) Dr. M.D. Patra	d) Sri T. Rabi Sankar	a	Sri Shaktikanta Das
9	The last amendment of the Wildlife Protection Act was during					
	a) 2006	b) 2013	c) 2017	d) 2021	d	2021
10	Blue vanda is					
	a) an orchid	b) insectivorous plant	c) Pitcher plant	d) the plant bearing the largest flower	a	an orchid
11	Which of the sets of activities best indicate the cyclic nature of action research strategy ?					
	a)Reflect, Observe, Plan, Act	b)Observe, Act, Reflect, Plan	c) Act, Plan, Observe, Reflect	d) Plan, Act, Observe, Reflect	d	Plan, Act, Observe, Reflect
12	In finalizing a thesis writing format which of the following would be a part of supplementary pages?					
	a) List of tables and figures	b)Table of contents	c) Conclusions of the study	d) Bibliography and appendices	d	Bibliography and appendices
13	The principal of a school conducted an interview session of teachers and students with a view to explore the possibility of their enhanced participation in school programmes. This endeavour may be related to which type of research ?					
	a) Evaluation research	b) Fundamental research	c) Action research	d) Applied research	c	Applied research

14	Which of the following is an initial mandatory step for pursuing research ?					
	a) Developing a research design	b) Formulating a research question	c)Deciding about the data analysis procedure	d)Formulating a research hypothesis	b	Formulating a research question
15	What is a research design ?					
	a) A way of conducting research that is not grounded in theory	b) The choice between using qualitative or qualitative methods	c)The style in which you present your research findings, e.g. graphs	d) A framework for every stage of the collection and analysis of data	d	A framework for every stage of the collection and analysis of data
16	The depth of any research can be judged by					
	a) Title of the research	b) Objectives of the research	c) Duration of research	d) Total expenditure of research	b	Objectives of the research
17	What do you consider as the main aim of interdisciplinary research?					
	a) To bring out holistic approach to research	b) To over simplify the problem of research	c) To create a new trend in research methodology	d) To reduce the emphasis of single subject in the research domain	a	To bring out holistic approach to research
18	The study in which the investigators attempt to trace an effect is known as					
	a) Survey research	b) Historical research	c) 'Ex-post facto' research	d) Summative research	c	'Ex-post facto' research
19	Bibliography given in a research report					
	a) Helps those interested in further research	b) Has no relevance to research	c) Shows vast knowledge of the researcher	d) Both b and c	a	Helps those interested in further research
20	Which one of the following is not used to test null hypothesis.....					
	a) Chi-squared test	b) Factorial analysis	c) t test	d) ANOVA	b	Factorial analysis
21	The F-test					
	a) Is essentially a two tailed test	b)Can never be a one tailed test	c) Can be one tailed as well as two tailed depending on the hypothesis	d) Is essentially a one tailed test	b	Can be one tailed as well as two tailed depending on the hypothesis
22	Field-work based research is classified as					
	a)Biographical	b) Experimental	c) Empirical	d) Historical	c	Empirical
23	Which one is called non-probability sampling?					
	a) Quota sampling	b) Stratified random sampling	c) Cluster sampling	d)Systematic sampling	a	Quota sampling
24	Which correlation co-efficient best explains the relationship between creativity and intelligence?					

	a) 0.3	b) 0.5	c) 0.6	d) 1.00	d	1.00
25	Which of the following is not an example of a continuous variable?					
	a) Family size	b) Age	c) Height	d) volume	a	Family size
26	Ribosomes present within the mitochondria of eukaryotic cells are					
	a) 70s type	b) 80s type	c) 40s type	d) none of these	a	70s type
27	The karyotype of a normal human being (♂) is					
	a) 44 + XY	b) 44 + XX	c) 44 + XO	d) 22 + XY	a	44 + XY
28	The sticky end created by digestion of a DNA segment by a particular restriction enzyme is known as					
	a) . Palindromic site	b) . Flanking region	c) Ori C	d) None of these	a	Palindromic site
29	During anaerobic oxidation of a glucose molecule, the following by-products are produced in Yeast					
	a) Lactic acid	b) Ethanol	c) Pyruvic acid	d) None of these	b	Ethanol
30	Angiotensin is secreted by					
	a) Liver	b) Kidney	c) Bone Marrow	d) Spleen	b	Kidney
31	Which one of the following is a glycoprotein hormone					
	a) TSH	b) GH	c) . TRH	d) ACTH	a	TSH
32	The lampbrush chromosome occur at which stage of meiotic prophase					
	a) Zygotene	b) Pachytene	c) Deplotene	d) Leptotene	c	Deplotene
33	Which type of lymphocyte secretes antibodies					
	a) NK cells	b) T-cells	c) B-cells	d) All of the above	c	B-cells
34	The mRNAs of Prokaryotic organisms are					
	a) Monocistronic	b) Polycistronic	c) Heterocistroni c	d) none	b	Polycistronic
35	Colour blindness is an inheritance of					
	a) X-linked dominant allele	b) X-linked recessive allele	c) Y-linked dominant allele	d) Y-linked recessive allele	b	X-linked recessive allele

36	Sickle-cell anemia is caused by mutation in					
	a) Haemoglobin A	b) Haemoglobin B	c) Haemoglobin S	d) Haemoglobin F	a	Haemoglobin A
37	Protein part of the enzyme is called					
	a) Apoenzyme	b) Holoenzyme	c) Holoenzyme	d) Prosthetic group	a	Apoenzyme
38	DNA replication occurs in					
	a) S phase	b) G1 phase	c) G0 phase	d) M phase	a	. S phase
39	No Question					1 mark for all
40	Which one of the following is an inborn error of metabolism ?					
	a) Cystinosis	b) Hartnup disease	c) Galactosemia	d) Triosinemia	c	Galactosemia
41	Most abundant lipid in plasma membrane is					
	a) Glycolipid	b) Phospholipids	c) Cholesterol	d) Sterol	b	Phospholipids
30	<del>In higher organisms, the antigen presenting cell is</del>					
	a) T cell	b) Megakaryocytes	e) Eosinophil	d) Macrophage	d	Macrophage
40	Tissue rejection is related with					
	a) Suppressor T cells	b) Helper T cells	c) Cytotoxic T cells	d) All of the above	c	Cytotoxic T cells
41	The disorder of protein deficiency in infants is known as					
	a) Mycoses	b) Scurvy	c) Kwashiorkor	d) Osteomalacia	c	Kwashiorkor
42	The karyotype of a normal human being (♂) is					
	a) . 44 + XY	b) 44 + XX	c) 44 + XO	d) 22 + XY	a	44 + XY
43	Testosterone is produced by					
	a) Sertoli cells	b) Epididymis	c) Spermatoocytes	d) Leydig cells	d	Leydig cells
44	Deoxygenated blood is carried by					
	a) Pulmonary artery	b) Pulmonary vein	c) Carotid artery	d) Aorta	a	Pulmonary artery
45	5'-Capping occurs in					

Q 40 Answer c in both cases  
Q 41 Answer b and c will be considered correct

	a) Prokaryotic mRNA	b) Eukaryotic mRNA	c) Both a and b	d) tRNA	b	Eukaryotic mRNA
46	What is number of estimated protein coding genes in the humans?					
	a)20000-25000	b)50000-60000	c) 1000-2000	d)2000-3000	a	20000-25000
47	How many DNA molecules are present in human haploid cells?					
	a) 46	b)92	c) $23 \times 10^{22}$	d) 23	d	23
48	Which of the following enzyme is responsible for cDNA formation?					
	a) Reverse transcriptase	b) Telomerase	c) RNA polymerase	d) DNA ligase	a	Reverse transcriptase
49	Which of the following protein first binds to the branching point of type III introns/spliceosomal introns during splicing mechanism?					
	a) BBP	b) U2 snRNP	c) U5 snRNP	d) U2AF35	a	BBP
50	Eukaryotic chromosomes are made up of					
	a) DNA	b) Proteins	c) Lipid	d) Both a and b	a	Both a and b
51	Which of the following proteins will not have disulfide linkage in eukaryotic organisms?					
	a) Proteins of golgi apparatus	b) Cytosolic proteins	c) Lysosomal proteins	d) Secretory proteins	b	Cytosolic proteins
52	Telomerase is .....in chemical nature					
	a) RNA	b) Protein	c) Ribonucleoprotein	d) Lipid	c	Ribonucleoprotein
53	Which of the following cyclin/CDKs are present in START checkpoint?					
	a) CyclinD/CDK4	b) Cyclin E/CDK4	c) Cyclin D/CDK2	d) Cyclin E/CDK2	a	Cyclin D/CDK4
54	What is sequence of nucleotides in the extreme 3' end of acceptor arm of tRNA					
	a) 5'-CAG-3'	b) 5'-GAA-3'	c) 5'-CCA-3'	d) 5'-CGA-3'	c	5'-CCA-3'
55	In the most severe form of progeria, Hutchinson–Gilford syndrome, a dominant mutation occurs in the gene encoding					
	a) Lamin A	b) Myosin	c)Telomerase	d)Tubulin	a	Lamin A
56	Which of the following cancer can be treated by hormonal therapy.					
	a) Lung	b) Breast	c) Kidney	d) Colorectal	b	Breast
57	In eukaryotic cells 45S pre-rRNA are transcribed by					
	a) RNA polymerase III	b) RNA polymerase I	c) RNA polymerase II	d) Both a and c	b	RNA polymerase I
58	The dark areas, which are often closely associated with the nuclear membrane, contain condensed concentrated DNA, called					
	a) Euchromatin	b) Pseudochromatin	c) Heterochromatin	d) None	c	Heterochromatin
59	Which of the following transcription factor has Zinc finger?					

	a) TFIIA	b) TFIH	c) TFIID	d) None	a	TFIIA
60	Melting temperature for primer in PCR is given by					
	a) $4(G+C) + 2(A+T)$	b) $2(G+C) + 4(A+T)$	c) $2(A+G) + 4(C+T)$	d) $4(A+G) + 2(C+T)$	a	$4(G+C) + 2(A+T)$
61	Which of the following heavy metal pollution related to hyperpigmentation, keratosis, various types of cancer and vascular diseases?					
	a) Mercury (Hg)	b) Lead (Pb)	c) Cadmium (Cd)	d) Arsenic (As)	d	Arsenic (As)
62	Which of the following is not secondary pollutant?					
	a) Acid Rain	b) Peroxyacetyl nitrate	c) Chlorofluorocarbon	d) Both a and b	c	Chlorofluorocarbon
63	Primary consumers in the detritus food chain are					
	a) Insect Larva, nematode	b) Bacteria and fungi	c) Herbivorous	d) Both a and c	b	Bacteria and fungi
64	Identify the genus of insect with 03 submarginal cells on the forewing, with the middle looking like the beak of a bird:					
	a) Bombus	b) Xylocopa	c) Lepidotrigona	d) Apis	d	Apis
65	Which is the major component of the royal jelly produced by a honey bee ?					
	a) Sugar	b) Lipid	c) water	d) Protein	c	water
66	Which part of the silk gland of <i>Bombyx mori</i> secretes fibroin?					
	a) Anterior silk gland	b) Gland of Fillipi	c) Middle silk gland	d) Posterior silk gland	d	Posterior silk gland
67	Wax of worker honey bee is secreted from					
	a) Prothoracic gland	b) Corpora allata	c) Hypopharyngeal gland	d) Abdominal wax gland	d	Abdominal wax gland
68	Silk glands of silkworms are located at					
	a) Labio-hypopharyngeal complex	b) Labrum	c) Near oesophagus	d) Extend throughout the abdomen	d	Extend throughout the abdomen
69	Which of the following compound is not involved with firefly luminescence					
	a) ATP	b) Luciferase	c) Luciferin adenylate	d) Alanine	d	Alanine
70	Chitosan is					
	a) Chitin linked with protein	b) Chitin linked with pigment	c) Deacetylated chitin	d) Monomer unit of chitin	c	Deacetylated chitin
71	Which of the following is not a hormone					

	a) Allatotropin	b) Bursicon	c) Ecdysteroid	d) Ectonon	d	Ectonon
72	Insect juvenile hormone is secreted by					
	a) Cerebral neurosecretory cells	b) Ventral neurosecretory cells	c) Corpora allata	d) Corpora cardiaca	c	Corpora allata
73	The chemical nature of insect hormones secreted by neurosecretory cells is					
	a) peptide	b) steroid	c) both peptide and steroid	d) terpenoid	a	peptide
74	N-acetyl glucosamine residues are found in					
	a) Cellulose	b) Chitin	c) Globular protein	d) Plant cell wall	b	Chitin
75	Japanese encephalitis is transmitted by					
	a) <i>Aedes (Stg.) aegypti</i>	b) <i>Anopheles (Cel.) culicifacies</i>	c) <i>Culex (Cux.) vishnui</i>	d) <i>Mansonia (Mnd.) uniformis</i>	c	<i>Culex (Cux.) vishnui</i>
76	Azadirachtin is an agonist of the insect hormone					
	a) Bursicon	b) Ecdysone	c) Juvenile hormone	d) Prothoracicotropic hormone	b	Ecdysone
77	Silverfish belong to order					
	a) Salmoniformes	b) Cypriniformes	c) Zygentoma	d) Archaeognatha	c	Zygentoma
78	Which of the following is not a juvenile hormone analog:					
	a) Diflubenzuron	b) Juvabione	c) Methoprene	d) Kinoprene	a	Diflubenzuron
79	Which of the following is not a pyrethroid insecticide					
	a) Abamectin	b) Cypermethrin	c) Deltamethrin	d) Permethrin	a	Abamectin
80	When the pest population crosses the EIL frequently, the type of pest will be called as					
	a) occasional pest	b) perennial pest	c) sub-economic pest	d) severe pest	b	perennial pest
81	The newly collected specimen to use as a substitute of the original type specimen is known as					
	a) Holotype	b) Paratype	c) Syntype	d) Neotype	d	Neotype
82	When a species is transferred from one genus to another retaining its original author and date, the author's name is					
	a) without any parenthesis	b) italicized	c) written in parenthesis	d) written in uppercase letter	c	written in parenthesis
83	The following statements are made on DNA replication – (A) Replication fork is a branch point in the replication					

	<p>'eye' or 'bubble'</p> <p>(B) A replication bubble contains two replication forks</p> <p>(C) DNA replication is continuous according to the interpretation made by Okazaki</p> <p>(D) Multiple priming events are required for both leading and lagging strands to initiate DNA synthesis</p> <p>Which one of the following is correct combination?</p>					
	a) A and B	b) B and C	c) C and D	d) A and C	a	A and B
84	<p>Histone deacetylase (HDAC) catalyses the removal of acetyl group from N-terminal of histones. Which amino acid of histone is involved in this process ?</p>					
	a) Lysine	b) Arginine	c) Asparagine	d) Histidine	a	Lysine
85	<p>Select a cellular body which is NOT a part of the nuclear bodies:</p>					
	a) P-bodies	b) Nucleolus	c) Cajal bodies	d) Interchromatin granule clusters	a	P-bodies
86	<p>During eukaryotic cell division, metaphase to anaphase transition is regulated by degradation of -</p>					
	a) Cyclin B1	b) CDK1	c) Aurora A Kinase	d) Polo like kinase	b	CDK1
87	<p>Which one of the following is a group of signalling molecules that act as morphogens during development of an organism and its effects are mediated through the receptor Patched and its binding partner Smoothened?</p>					
	a) Hedgehog Protein	b) Notch protein	c) Wnt Protein	d) $\beta$ -catenin	a	Hedgehog Protein
88	<p>Proteins with cytoplasmic domains having tyrosine kinase activity do NOT act as receptors for -</p>					
	a) Epidermal growth factor (EGF)	b) Platelet-derived growth factor (PDGF)	c) Insulin	d) Transferrin	d	Transferrin
89	<p>Which of the following is NOT a cell adhesion protein ?</p>					
	a) Cadherin	b) Selectin	c) Immunoglobulin (Ig) superfamily	d) laminin	d	laminin
90	<p>Which of the following is not a second messenger ?</p>					
	a) Cyclin AMP	b) Diacylglycerol	c) Inositol triphosphate	d) Phosphatidyl inositol	d	Phosphatidyl inositol
91	<p>Given below are events in the cell cycle-</p> <p>(A) Phosphorylation of Lamin A,B,C</p> <p>(B) Phosphorylation of Rb (Retinoblastoma protein)</p>					



	(C) Polyubiquitination of Securin (D) Association of inner nuclear membrane proteins and nuclear pore complex proteins with chromosomes Which one of the following reflects the correct sequence of events in mammalian cell cycle ?					
	a) A→B→C→D	b) B→C→D→A	c)C→A→D→ B	d)B→A→C→ D	d	B→A→C→D
92	Error Free repair of double strand breaks in DNA is accomplished by :					
	a)Non-homologous end-joining	b)Base excision repair	c)Homologous recombination	d)Mismatch repair	c	Homologous recombination
93	All are seen in thalassemia major except?					
	a)Transfusion dependency	b)Splenomegaly	c>Ineffective erythropoiesis	d)Macrocytic anaemia	d	Macrocytic anaemia
94	Which one of the following genes was NOT part of transcription factors used to generate induced pluripotent stem (iPS) cells from mouse skin fibroblasts?					
	a)Oct4	b)Sox2	c)c-jun	d)Klf4	c	c-jun
95	The control charts and procedures of descriptive statistics which are used to enhance a procedure can be classified into which of these categories?					
	a)Behavioural tools	b)Serial tools	c)Industry statistics	d)Statistical tools	d	Statistical tools
96	A magazine printed a survey in its monthly issue and asked readers to fill it out and send it in. Over 1000 readers did so. This type of sample is called :					
	a)Cluster sample	b)Self-selected sample	c)Stratified sample	d)Simple random sample	b	Self-selected sample
97	Which one of the following variables is not categorical?					
	a)Age of a person	b)Gender of a person: male or female	c)Choice on a test item: true or false	d)Marital status of a person (single, married, divorced, other)	a	Age of a person
98	Which of the following would indicate that a dataset is not bell-shaped?					
	a)The range is equal to 5 standard deviations	b)The range is larger than the interquartile range	c)The mean is much smaller than the median	d)There are no outliers	c	The mean is much smaller than the median
99	Pick the choice that best completes the following sentence. If a					

	relationship between two variables is called statistically significant, it means the investigators think the variables are:					
	a)related in the population represented by the sample	b)not related in the population represented by the sample	c)related in the sample due to chance alone	d)very important	a	related in the population represented by the sample
10 0	The intercept in linear regression represents:					
	a)The strength of the relationship between x and y	b)The expected x value when y is zero	c)The expected y value when x is zero	d)A population parameter	c	The expected y value when x is zero