DU MPhil PhD in Bio Physics N				
Sr.No	**Question Id**	**Question Description**	**Question Body**	**Options**
1	1	DU_J19_MPHIL_BIOPHY_New6july_Q01	Which of the following is an organelle enclosed by a single membrane:	1:Lysosomes, 2: ribosomes, 3: mitochondri 4:choloroplast,
2	2	DU_J19_MPHIL_BIOPHY_New6july_Q02	Chlorophyll consists of two parts, a metal ion of Magnesium and an organic portion termed as:	5:dextran, 6: globin, 7:porphyrin, 8:sphingolipid,
3	3	DU_J19_MPHIL_BIOPHY_New6july_Q03	Intellectual Property rights granted over creations like music, novels, paintings and cinematic work is classified as:	10: Copyright, 11: Trademark 12:Certification 9:Creative pat
4	4	DU_J19_MPHIL_BIOPHY_New6july_Q04	"Dextrose" is an example of which type of macromolecule:	13:protein, 14: carbohydra 15: lipid, 16:vitamin,
5	5	DU_J19_MPHIL_BIOPHY_New6july_Q05	The secondary structure of proteins is stabilized mainly via :	17:hydrogen b main chain ato acids . 18: hydrogen b side chains of a 19: hydrogen b main chain and aminoacids . 20:ionic bonds atoms of amino
6	6	DU_J19_MPHIL_BIOPHY_New6july_Q06	The genetic code is known to be degenerate with several three letter codons coding for the same aminoacid. How many codons code for the Methionine amino acid :	21:3, 22: 1, 23: 2, 24:0,

7	7	DU_J19_MPHIL_BIOPHY_New6july_Q07	Which of the following is a method for determining the three dimensional structure of proteins.	25:Isothermal Calorimetry, 26: X-ray cryst 27: Dynamic li 28:Optical mic
8	8	DU_J19_MPHIL_BIOPHY_New6july_Q08	In a NATIVE-PAGE experiment, the proteins are separated:	29:only on bas 30: only on ba 31: only on the quaternary stru 32:both the ba size,
9	9	DU_J19_MPHIL_BIOPHY_New6july_Q09	A mRNA of about 1.5kb is expected to code for a protein of the following length:	33:~ 500 amir 34: ~ 200 ami 35: ~1000 am 36:~ 1500 am
10	10	DU_J19_MPHIL_BIOPHY_New6july_Q10	Which of the following model organisms is used routinely in biological sciences is actually a Frog:	37:Caenorhabd 38: Xenopus tr 39: Saccharom 40:Danio Reric
11	11	DU_J19_MPHIL_BIOPHY_New6july_Q11	The bacterial genome typically codes for about _______ genes.	41:4,000, 42: 1,500, 43: 15,000 , 44:40,000,
12	12	DU_J19_MPHIL_BIOPHY_New6july_Q12	Which of the followings DOES NOT have a membrane-enclosed nucleus in the cell:	45:Archaea, 46: Fungi, 47: Yeast, 48:Protist,
13	13	DU_J19_MPHIL_BIOPHY_New6july_Q13	You need a protein sample with concentration of 50mg/ml for your experiment. You have 1000 µL of this sample with protein concentration of 5 mg/mL. Which of the following would lead you to the desired concentration?	49:Concentrate µL, 50: Concentrat µL, 51: Concentrat 0.05 L, 52:Concentrate L,

14	14	DU_J19_MPHIL_BIOPHY_New6july_Q14	You have a 5 M solution of NaCl, which needs to be diluted to 1 M concentration. How much water do we add to 100 ml of such solution to make it correct molarity?	53:0.5 L, 54: 0.4 L, 55: 300 mL, 56:500 mL,
15	15	DU_J19_MPHIL_BIOPHY_New6july_Q15	Proteins are known to undergo various modifications after their synthesis, known as post-translational modifications. How many such variations are currently known:	57: ~20, 58: ~200, 59: ~2000, 60: ~5,
16	16	DU_J19_MPHIL_BIOPHY_New6july_Q16	Some proteins are known to carry out multiple functions in an organism. Such proteins are known as:	61: Universal p 62: Sunny pro 63: Moonlighti 64: Twinkling p
17	17	DU_J19_MPHIL_BIOPHY_New6july_Q17	In the acronym "siRNA", the letter "si" stands for:	65: small inges 66: small inter 67: short inhib 68: short mRN
18	18	DU_J19_MPHIL_BIOPHY_New6july_Q18	In protein structure visualization programs, the nitrogen atoms are usually depicted in this color:	69: Grey, 70: Yellow, 71: Red, 72: Blue,
19	19	DU_J19_MPHIL_BIOPHY_New6july_Q19	In prokaryotes, the genes for related function are often present in genetic units that are regulated together. This arrangement is called as:	73: a linkage g 74: an Operon 75: a cistron, 76: a CDS,
20	20	DU_J19_MPHIL_BIOPHY_New6july_Q20	Which of the following techniques can be used to find the secondary structure content of a protein molecule without any information of the three-dimensional structure information?	77:NMR (Nucle Resonance), 78: Circular dic spectroscopy, 79: Size exclus 80:X-ray cryst
21	21	DU_J19_MPHIL_BIOPHY_New6july_Q21	Which of the following statements is CORRECT for double-stranded nucleic acids i. Two strands are associated by hydrogen bonds ii. Sequences are complementary and antiparallel iii. The back-bones are made of phosphor-diester bonds iv. Numbers of hydrogen bonds between two nucleotides are not uniform	81:All of the al 82: All of the a 83: All of the a

			between the nucleotides are not uniform	84:Only (i) and
22	22	DU_J19_MPHIL_BIOPHY_New6july_Q22	A double-stranded RNA genome isolated from a virus in the stool of a child with gastroenteritis was found to contain 15% uracil. What is the percentage of guanine in the viral genome?	85:15, 86: 25 , 87: 35 , 88:75,
23	23	DU_J19_MPHIL_BIOPHY_New6july_Q23	A gene encodes a protein with 150 amino acids. There is one intron of 1000bps, a 5'-untranslated region of 100bps and a 3'-untranslated region of 200bps. In the final processed mRNA, how many bases lie between the start and final termination codon?	89:1750, 90: 750, 91: 650, 92:450,
24	24	DU_J19_MPHIL_BIOPHY_New6july_Q24	Western blot is used to probe	93:DNA, 94: RNA, 95:Protein, 96:Single strar
25	25	DU_J19_MPHIL_BIOPHY_New6july_Q25	Some cells in the adult animals do not divide (e.g., heart cells). These cells enter an inactive stage of the cell cycle called as	100:G2 phase, 97:G0 phase, 98: G1 phase, 99: S phase,
26	26	DU_J19_MPHIL_BIOPHY_New6july_Q26	Which of following is not a protein	101: Spider w 102: Rhino ho 103: Cobra v 104: Jute,
27	27	DU_J19_MPHIL_BIOPHY_New6july_Q27	In which of the following cases, drug resistance is known to occur	105: Mycobac 106: HIV, 107: Cancer, 108: All of th
28	28	DU_J19_MPHIL_BIOPHY_New6july_Q28	What does pH 0 indicate?	109: 1 molar 110: 1 molar , 111: A very s 112: A buffer acid is aced,
29	29	DU_J19_MPHIL_BIOPHY_New6july_	What is the advantage of glycolysis, since it taps only a small fraction of the energy available in the glucose molecule?	113:It may be is unavailable.,

		New6july Q29		114: It is cyclic substrate is re 115: It require ATP., 116:It is comp spontaneous re
30	30	DU_J19_MPHIL_BIOPHY_New6july_Q30	Which of the following statements are correctly describing the transport system found in plants? i) Xylem: water and nutrients from root to shoots:: Phloem: food synthesized in leaves to other parts ii) Xylem: upward movement only :: Phloem: Both up and down movement iii) Xylem: outside of vascular bundle :: Phloem: centre of vascular bundle iv) Xylem: centre of vascular bundle : : Phloem: outside of vascular bundle	117:Statement 118: Statemer 119: Statemer 120:Statement
31	31	DU_J19_MPHIL_BIOPHY_New6july_Q31	The attachment site for RNA polymerase on the DNA template is called as	121:Cistron, 122: Regulator 123: Promoter 124:Intron,
32	32	DU_J19_MPHIL_BIOPHY_New6july_Q32	High level of one hormone/protein results in diminution of a second hormone/protein. This phenomena is called as	125:Negative f 126: Hermaph 127: Positive f 128:Covarianc
33	33	DU_J19_MPHIL_BIOPHY_New6july_Q33	The variable region of an antibody is primarily responsible for	129:Specificity antigen, 130: Three-dir of antibody, 131: Transport distant locatior 132:Disulfide b
34	34	DU_J19_MPHIL_BIOPHY_New6july_Q34	Gram staining is an example of	133:Differentia 134: Acid fast 135: Negative 136:Spore stai
35	35	DU_J19_MPHIL_BIOPHY	Kinetic Theory of Gases deals with	137: macrosc the system.,

		New6july Q35		138: microsco system., 139: both mi properties of th 140: neither r macroscopic pr system,
36	36	DU_J19_MPHIL_BIOPHY_New6july_Q36	Thermodynamics deals with	141:macroscop system., 142: microscop system., 143: both micr of the system. 144:neither mi macroscopic pr system,
37	37	DU_J19_MPHIL_BIOPHY_New6july_Q37	A system of ideal gas has undergone change from one state to another state. While undergoing the change in state, the work done in a reversible process	145:Is equal to an irreversible 146: Is greater done in an irre 147: Is lesser in an irreversib 148:Is either g than the work irreversible pro
38	38	DU_J19_MPHIL_BIOPHY_New6july_Q38	The First Law of Thermodynamics deals with	149:Flow of en direction, 150: Increase system and the 151:Conservat work on or by 152:None,
39	39	DU_J19_MPHIL_BIOPHY_New6july_Q39	Van der Waals distance between two molecules in a gas arises due to	153:Strong ele interaction bet ,

		Q39		154: Strong in the nuclei of th 155: Non-negl molecules, , 156:Negligible molecules.,
40	40	DU_J19_MPHIL_BIOPHY_New6july_Q40	Maxwell Boltzmann distribution of kinetic energy of molecules is based on	157:Random d velocities., 158: Equal dist velocities., 159: Linear dis velocities., 160:Power law velocities.,
41	41	DU_J19_MPHIL_BIOPHY_New6july_Q41	Resonance occurs when	161:Componen different wavel 162: Compone wavelengths, b 163: Compone different wavel phases., 164:Componen wavelengths ar
42	42	DU_J19_MPHIL_BIOPHY_New6july_Q42	Oxygen Molecule (O_2) is	165:Diamagne 166: Paramagn 167: Ferromag 168:None. ,
43	43	DU_J19_MPHIL_BIOPHY_New6july_Q43	Purine is	169:An aliphat 170: A homocy compoun , 171: A heteroc compoun,

				172:A heterocy compoun ,
44	44	DU_J19_MPHIL_BIOPHY_New6july_Q44	Optically active organic compounds must have	173:Symmetri 174: Asymmet 175: No carbo 176:Double bo
45	45	DU_J19_MPHIL_BIOPHY_New6july_Q45	The frequencies of the following electromagnetic radiations are of the order	177:Visible> u 178: X-ray > u 179: Ultraviole 180:X ray > vi
46	46	DU_J19_MPHIL_BIOPHY_New6july_Q46	The sum of the series 1,2,4,8,16,.....2^n is	181: N^2, 182: 2^n, 183: 2^n-1, 184: None,
47	47	DU_J19_MPHIL_BIOPHY_New6july_Q47	Three resistors 1Ω, 2 Ω, 3Ω are combined in series. What is the equivalent resistance of the combinations?	185: 10 Ω, 186: 6 Ω, 187: 5 Ω, 188:25 Ω,
48	48	DU_J19_MPHIL_BIOPHY_New6july_Q48	The curve $x^2/4 + y^2/9 = 1$ has major & minor axes	189:2 & 2 resp 190: 3 & 3 res 191: 2 & 3 res 192:3 & 2 resp
49	49	DU_J19_MPHIL_BIOPHY_New6july_Q49	For a chemical reaction the Equilibrium constant is related to the Forward Rate Constant k_f and Backward Rate Constant k_b as below.	193:K= kf + k 194: K= kf - k 195:K= kf / kb 196:K= kf x kb
50	50	DU_J19_MPHIL_BIOPHY_New6july_Q50	The total change in entropy for an irreversible process is	197:0, , 198: Positive, , 199: Negative, 200:both posit