WBJEEM - 2014

BIOLOGY

	I	BIOLOG	1	
Q.No.		٠	•	
01	D	С	D	С
02	В	С	В	D
03	С	В	A	A
04 05	B	A C	C B	B C
06	A	D	C	c
07	С	В	В	D
08	D	С	D	D
09	В	D	С	D
10	A	С	D	В
11 12	C C	B C	D	C C
12	В	В	c	A
14	В	D	С	A
15	D	С	A	D
16	D	В	D	В
17	D	D	D	D
18 19	C B	D	B	C A
20	D	B	B	C
21	D	С	D	D
22	D	В	A	С
23	С	С	С	С
24	D	A	С	D
25 26	C A	C A	B	C D
20	D	C	C	D
28	C	В	C	D
29	С	A	D	С
30	В	D	С	
31	В	С	В	
32 33	A C	DB	C B	C C
34	D	D	D	D
35	C	A	A	
36	С	D	D	С
37	A	С	Ð	В
38	В	D	В	D
39	D	A	D	В
40 41	C A	В	C C	B C
41	C	С	D	A
43	c	D	D	C
44	D		С	D
45		A	В	D
46	A	С	В	В
47	C	B D	C	C
48 9	C B	D	A C	A B
5	C	C	A	D
51	C	C	C	A
	В	С	С	В
53	С	С	С	D
54	D	А	В	С
55	D	D	C	В
56 57	C D	C D	C	C C
57 58	C	C	A C	A
59	c	c	D	C
60	A	B	D	C
61	А	D	В	В
62	В	С	В	A
63	B	B	C	B
64 65	B	AB	D C	A D
66	A	D	B	C
67	В	В	A	В
68	D	В	В	D
69	С	В	В	В
70 71	D	C D	B A	B
72	B	A	D	B
73	C	A	B	A
74	В	В	A	С
75	D	В	D	D
76	A,B,C	A,B,D	A,B,D	B,C,D
77 78	A,B,D B,C,D	B,C,D A,B,D	A,B,D A,B,C	B,C,D A,B,D
				A,B,C
79	A,B,D	B,C,D	B,C,D	A,D.C



WBJEEM - 2014	(Answers & Hints)
----------------------	-------------------



ANSWERS & HINTS for **WBJEEM - 2014** SUB : BIOLOGY

CATEGORY-I

Q.1 to Q.60 carry one mark each, for which only one option is correct. Any wrong answer will lead to deduction of 1/3 mark. 1. One molecule of triglyceride is produced using (A) One fatty acid and one glycerol (B) One fatty acid and three glycerols (C) Three fatty acids and three glycerols (D) Three fatty acids and one glycerol Ans:(D) Hints : One molecule of triglyceride is produced by three molecules of fatty acids and one molecule of glycerol. 2. Glutenin is an important protein in (A) Potato (B) Wheat (D) Spinach (C) Soybean Ans:(B) Hints : Glutenin is a storage protein present in wheat 3. Which one of the followings is enriched with a non-reducing sugar? (A) Grapes (B) Germinating barley grains (C) Table sugar (D) Mother's milk Ans:(C) Hints : Table sugar is sucrose which is a non-reducing sugar. Select the CORRECT statem nt elated o mitosis 4. (A) Amount of DNA in the par int cell is first halved and then distributed into two daughter cells (B) Amount of DNA in the parent cell is first doubled and then distributed into two daughter cells (C) Amount of DNA in the parent cell is first halved and then distributed into four daughter cells (D) Amount of DNA in the parent cell is first doubled and then distributed into four daughter cells Ans:(B) 5. The frequency of crossing-over occurring between two genes located on the same chromosome depends on (A) Length of the chromosome (B) Position of the centromere (C) Activities of two genes (D) Distance between two genes Ans:(D) Hints : Frequency of crossing-over is directly proportional to the distance between two genes. 6. Chlorophyll molecules are located in the (A) Thylakoid membrane (B) Thylakoid lumen (C) Stroma (D) Inner chloroplast membrane Ans:(A)

WBJ	JEEM	- 2014 (Answers & Hin	ts)						Biology
7.	The	e primary cell wall is m	ainly	made up of					
	(A)	Lignin	(B)	Pectin	(C)	Cellulose	(D)	Protein	
	Ans	: (C)							
8.	Which of the folloiwng statements is wrong for sucrose ?								
	(A)	It is a disaccharide			(B)	It is a non-reducing sug	gar		
	(C)	It accumulates in the	cyto	plasm	(D)	It is comprised of malte	ose a	nd fructose	
	Ans	:(D)							
	Hint	s : Sucrose is a disac	chari	de composed of glucose	and f	ructose.			
9.	Whi	ch of the followings is	alway	s ABSENT in prokaryotic	cells	s?			
	(A)	Ribosome	(B)	Mitochondria	(C)	DNA	(D)	Cell wall	
	Ans	:(B)							
10.	Whi	ch of the following tiss	ues p	rovide maximum mechan	ical s	support to plant organs	?		
	(A)	Sclerenchyma	(B)	Collenchyma	(C)	Parenchyma	(D)	Aerenchyma	
	Ans	: (A)							
	Hint	s : It is thick walled, li	gnifie	ed dead mechanical tissue	Э				
11.	The	Respiratory Quotient	(RQ)	of glucose is					
	(A)		(B)	0.7	(C)	1.0	(D)	1.5	
		: (C)							
12.		ss-pollination through		-					
	. ,	Anthropophily	(B)	Malacophily	(C)	Entomophily	(D)	Ornithophily	
12		: (C) stogamous flowers are							
13.	(A)	Bisexual flowers which		nain opened	(B)	Bisexual flowers which	rem	ain closed	
	(, () (C)	Open female flower	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		(D)	Open male flower	i i offici		
	. ,	:(B)			(-)				
14.			is a g	g owth regulator produced	d by p	plants ?			
	(A)	Naphthalene acetic a	cid		(B)	Zeatin			
	(C)	2,4-Dichlorophenoxy	acetio	cacid	(D)	Benzyl aminopurine			
	Ans	:(B)							
	Hint	s : Zeatin belongs to t	he fai	mily of natural plant growt	h reg	ulator called cytokinin.			
15.		ople, the edible portion							
	. ,	Mesocarp	(B)	Epicarp	(C)	Endocarp	(D)	Thalamus	
16		:(D)	dnoor	and married to Shaela w	iha ia	not colour blind What i	o tho	abanaa that thair	النبي
16.		e the disease ?	unes	s and married to Sheela, w	/10 15	not colour-billio. what i	Strie	chance that their	SOLIMII
	(A)	100%	(B)	50%	(C)	25%	(D)	0%	
		: (D)							
			uestio	n, Sheela is not colour blir	nd so,	her genotype is XX and	the c	olour blind Anish	has the
	geno	otype X ^C Y.							

WBJ	IEEM - 2014 (Answers & Hints)				Biology
17.	Insect pest resistant Bt-cotton plant was developed using	n			
•••	(A) Somaclonal variation (B) Micropropagation	9 (C)	Somatic hybridization	(D)	Transgenic technology
	Ans : (D)	(-,	••••••••••••••••••••••••••••••••••••••	* <i>,</i>	
	Hints : Bt cotton was produced by transgenic technology	in wh	ich <i>crv</i> gene was introdu	iced ir	nto cotton plant genome.
	This gene was obtained form <i>Bacillus thuringiensis</i> .				No conter press 3
18.	In which one of the followings, expenditure of energy is re	equire	ed ?		
	(A) Osmosis (B) Diffusion	(C)	Active transport	(D)	Passive transport
	Ans : (C)	•	-	•	-
	Hints : Active transport requires expenditure of energy s	since,	it occurs against the cor	ncent	ration gradient.
19.	Emasculation ensures cross-pollination in		-		C C
	(A) Staminate flower (B) Bisexual flower	(C)	Neuter flower	(D)	Pistillate flower
	Ans : (B)	· ·		· ·	
20.	The protein component of a holoenzyme is known as				
	(A) Coenzyme (B) Cofactor	(C)	Prosthetic group	(D)	Apoenzyme
	Ans : (D)				
	Hints : Protein part of a conjugated or holoenzyme is ca	lled a	s apoenzyme. Non-prot	ein pa	art is called as co-factor.
21.	Pseudopodia are produced by				
	(A) Plasma Cell	(B)	Mast Cell		
	(C) Adipose Cell	(D)	Fibroblast Cell		
	Ans: (D)				—· · · · ·
~~	Hints : Protoplasmic processes of fibroplast can act as pse	udopo	dia supported by axial fila	amen	ts. They are lamellipodia.
22.	Formation of polysome does not require			(D)	
	(A) rRNA (B) mRNA	(C)	tRNA	(D)	snRNA
22	Ans : (D) K _m is				
20.	(A) Product (B) Enzyme	(C)	Constant	(D)	Unit
	Ans: (C)	(0)	Ounstant		Ofine
	Hints : K _m is Michaelis-Menten constant. It indicat s sub	ostrat	e concentration at which	h rate	of reaction is half of the
	maximum velocity				
24.	Proteins helping in Kinetocore forma ion of yeast are				
	(A) CBF2 and Kar ³ P	• •	CBF2 and CBF3		
	(C) CBF3 and Kar ³ P	(D)	CBF2, CBF3 and Kar ³ F	2	
OF	Ans : (D)				
25.	Juvenile hormone in insects is released from(A)Protocerebrum(B)Corpora Cardiaca	(C)	Corpora Allata	(D)	Thoracic Gland
	Ans: (C)	(0)	Colpora Allala	(D)	
	Hints : Juvenile hormone is produced by corpora allata.	tensi	ures the retention of juve	enile c	characters
26.	Genes which are located only in the X-Chromosome are				
	(A) Epistasis genes (B) Holandric genes	(C)	Operator genes	(D)	Antiepistasis genes
	Ans : (A)	_			
	Hints : Epistasis genes is the most probable option thoug	•			•
	[According to Barr Body concept (applicable only for X- X-chromosome) are at times hypostatic due to presence		, ,		
	* Genes which are located on X-chromosome only are ca	-	-		
	only are called holandric genes .	inca .	lology no genee and an		
27.	Industrial Melanism is an				
	(A) Effect of industrial pollution	(B)	Effect of mutation		
	(C) Evidence of survival of fittest	(D)	Evidence in favour of N	latura	I Selection
	Ans:(D)				· · · · · · · · · · · · · · ·
	Hints : Industrial melanism is an evidence of Natural Sel	ectior	but industrial pollution a	acteo	as the selective factor

WBJ	IEEM - 2014 (Answers & Hints)				Biology
28.	The concept of Hot-Spot was first introduced by				
	(A) Mayer (B) Simpson	(C)	Myers	(D)	David
	Ans : (C)	、 /		、 /	
29.	With the rise of water temperature, dissolved oxygen				
	(A) Remains unchanged	(B)	Increases in amount		
	(C) Decreases in amount	(D)	Is more available to the	e aqua	atic organisms
	Ans : (C)	. /			č
30.	Intermediate host of malarial parasite is				
	(A) Pig (B) Man	(C)	Mosquito	(D)	Larva of Mosquito
	Ans : (B)	(-)		(=)	
	Hints : Human is considered as the intermediate host or	Seco	ndary host herause the	narao	site performs its asexual
	cycle within human in medicine. In zoology or biological		•	•	-
31.	Which codon is not an indicator of completion of protein		-		
	(A) UAG (B) AUG	(C)		(D)	UGA
	Ans : (B)	(-)		(-)	-
	Hints : Since, AUG only initiates protein synthesis.				
32.	'Kyoto Protocol' is a multination international treaty for				
52.	(A) Phasing out green house gases	(B)	Controlli g ozone dest	roving	rsubstances
	(C) Management of hazardous wastes	(D)	Conse vatio of biodive		3 000001000
	Ans : (A)	、 /		,	
33.	The objective of 'Ramsar Convention' was	/— :			
	(A) Forest conservation	(B)	Wildlife conservation	~ ~	
	(C) Wetland conservation Ans : (C)	(D)	Biodiversity conservation	on	
	Hints : Signed–2nd Feb 1971 (Iran) & effective from 21st	Dece	ember, 1975		
34.	Which of the following human parasites requi e mos uito		omplete their life-cycle ?		
	(A) Ascaris lumbricoides and Wuchereria bancrofti	(B)	Leishmania donovani a	and Pl	
	(C) Ascaris lumbricoides and Leishmania donovani	(D)	Wuchereria bancrofti a	and Pl	asmodium ovale
	Ans : (D) Hints : Wuchereria bancrofti requires femal Culex and I	Place	nodium ovale requires f	amala	Anonheles to complete
	their life-cycle	1031		Jinale	
35.	In which diagnostic system, Piezoelectric effect and Rev			involv	ed?
	(A) EEG (B) CAT	(C)	USG	(D)	MRI
	Ans: (C)	volu	d for proper diagnosic		
36.	Hints : In Ultrasonographic technique these effects are in Main cause of Eutrophication is	VUIVE	eu ior proper diagnosis		
50.	(A) Fluctuation of temperature	(B)	Unusual growth of aqua	atic ve	egetations
	(C) Enrichment of nutrients	• •	Abundance of microor		-
	Ans:(C)				
	Hints : Enrichment of nutrients occur by addition of nitr	ates	and phosphates throug	gh fer	tilizers or sewage to an
37.	aquatic system. The body of Rohu fish is covered by				
57.	(A) Cycloid scale but the tail is homocercal	(B)	Placoid scale but the t	ail is l	neterocercal
	(C) Cycloid scale but the tail is heterocercal	` '	Placoid scale but the t		
	Ans:(A)				
00	Hints : Rohu (<i>Labeo rohita</i>) is a carp in which body is co	overe	d by cycloid scales and	the ta	ail is homocercal
38.	Management of National Park is controlled by (A) State Government	(P)	Central Government		
	(A) State Government (C) United Nations	(B) (D)	Non-Government Orga	nizatio	ons
	Ans : (B)	(-)	. ten coveniment orga		

WBJ	EEM - 2014 (Answers & Hints)				Biology
39	Which one is an example of living fossil ?				
00.	(A) Coral (B) Ascidia	(C)	Octopus	(D)	King crab
	Ans : (D)	(-)		()	3
	Hints : It belongs to phylum arthropoda and retains all an	cient	characters		
40.	The removal of 'Keystone' species will affect				
	(A) The producers	(B)	The consumers		
	(C) The ecosystem	(D)	The decomposers		
	Ans : (C)	(2)			
	Hints : Keystone species is that which inspite of its low a	bund	lance affects the whole	ecos	ystem
41.	Objects less than 0.2 μm in size cannot be seen under lig	ght m	icroscope because		
	(A) The wave length of visible light is 3900 Å to 7800 Å				
	(B) Only two types of lenses are used				
	(C) Maximum magnifying power of ocular lens is 20 X(D) Maximum magnifying power of objective lens is 100	x			
	Ans: (A)	~			
	Hints : Because at the wavelength of visible light (3900 Å t	o 78	00 Å) objects cannot be i	esol	ved that are less than 0.2
	μm.			_	
42.	If the sequence of bases in the coding strand of a double	e stra	anded DNA is 5' GTTC	GAG	GTC-3', the sequence of
	bases in its transcript will be (A) 5' - GACUCGAAC-3' (B) 5' - CAAGCUCAG-3'	(C)	5'- GUUCGAGUC-3'	(D)	
	Ans:(C)	(0)	3 - 00000A000-3	(D)	J - COOACCOUC-J
	Hints : The sequence of transcript (i.e., RNA transcribed)) is sa	ame as t e coding strand	dexc	ept in place of thymine it
	is uracil.				
43.	Immunity that develops in the fetus after receiving antibod	lies f	rom mother's blood throu	ugh p	lacenta is
	(A) Naturally acquired active immunity				
	(B) Artificially acquired active immunity(C) Naturally acquired passive immunity				
	(D) Artificially acquired passive immunity				
	Ans : (C)				
	Hints : Fetus receives IgG antibody from mother through	the p	placenta so, it is naturally	y acq	uired passive immunity.
44.	The serous membrane which covers the lungs is called	$\langle \circ \rangle$	Deviele en driver		Discuss
	(A) Pericardium (B) Periton um Ans : (D)	(C)	Perichondrium	(D)	Pleura
	Hints : Parietal and visceral pleura cover lungs.				
45.	The volume of air that can be breathed i by maximum for	orceo	l inspiration over and at	ove	the normal inspiration is
	called				
	(A) Expiratory Reserved Volume	(B)	Inspiratory Reserved Ve	olume	e
	(C) Vital Capacity Ans : (B)	(D)	Inspiratory Capacity		
	Hints : Volume of air that can be breathed in by maximum	force	ed inspiration above tida	l volu	me or normal inspiration
	is called as inspiratory reserve volume.				
46.	How many ATP are produced when one molecule of FAD	H ₂ is	oxidized to FAD through	Elec	ctron Transport System?
	(A) 2 (B) 3	(C)	1	(D)	4
47.	Ans: (A) Which valve is present at the opening of coronary sinus?				
47.	(A) Mitral valve (B) Eustachian valve	(C)	Thebesian valve	(D)	Tricuspid valve
	Ans:(C)	(0)		(0)	
	Hints : Opening of coronary sinus is guarded by Thebesia	n val	ve.		
48.	Which of the following organs does not produce any diges	stive			
	(A) Salivary gland (B) Pancreas	(C)	Liver	(D)	Stomach
	Ans : (C)				
	Hints : Liver produces bile juice which is devoid of enzym	es.			

WBJ	EEM	- 2014 (Answers & Hir	its)					Biology
49.	The	disease that occurs in	n matu	ure adult human being du	le to c	leficiency of calciferol	is	
	(A)	Keratomalacia	(B)	Osteomalacia	(C)	Glossitis	(D)	Pernicious anaemia
	Ans	: (B)						
	Hint	t s : Calciferol is vitami	n D. It	s deficiency in adult caus	ses os	teomalacia in which b	one be	comes weak and fragile.
50.				acteria by phagocytosis?				Ŭ
		Eosinophil and Base	-		(B)	Basophil and Lymph	locyte	
	(C)	Neutrophil and Mond	ocyte		(D)	Neutrophil and Lymp	hocyte	•
	Ans	: (C)	-				·	
	Hint	s: Neutrophil and mo	onocyt	e are major phagocytic o	ells o	f immune system.		
51.	Whi	ch excitatory neurotra	nsmit	ter is involved in the trans	smiss	ion of impulse at the n	euro-m	nuscular junction?
	(A)	Epinephrine	(B)	Serotonin	(C)	Acetyl choline	(D)	Glycine
	Ans	: (C)				-		-
	Hint	t s : Acetylcholine is th	e neu	rotransmitter that helps in	n neu	romuscular transmiss	ion.	
52.	Whi	ch area of cerebral co	rtex is	responsible for the inter	pretat	ion of speech?		
	(A)	Brocca's area			(B)	Wernicke's area		
	(C)	Premotor area			(D)	Association area of	sensory	y cortex
	Ans	: (B)						
	Hint	t s : Interpretation of sp	beech	(understanding speech)	is in V	Verni ke s area of tem	poral lo	obe.
53.	Whi	ch of the following pitu	iitary h	normones is secreted wit	hou t	ne involvement of a re	leasing	hormone (RH)?
	(A)	Thyroid Stimulating H	lormo	ne (TSH)	(B)	Follicle Stimulating H	lormon	e (FSH)
	(C)	Oxytocin			(D)	Prolactin		
	Ans	: (C)						
		-	lares	synthesize and secrete	d dire	ctly from hypothalam	ic nucle	ei without involvement of
		asing hormones.						
54.		-		s is a derivative of fatty a	cid?	_		
	(A)		(B)	T yroxin	(C)	Estrogen	(D)	Prostaglandins
		: (D)						
		-		ivative of unsaturated 20		-	mone.	
55.		•		nvolved in muscular con				
	()	Calcium ion	(B)	Troponin	(C)	Actin	(D)	Magnesium ion
		: :(D) t s : Actin myosin trop	onin 1	ropomyosin and calcium	ions	are directly involved in	muscle	e contraction but Mg ⁺⁺ ion
		econdarily involved in			10110 (masoic	on a contraction but mg - lon
56.	Prox	kimal convoluted tubul	e of n	ephron is responsible for				
	(A)	Filtration of blood						
	(B)	Maintenance of Glon						
	(C) (D)	Reabsorption of salt	-	lucose, amino acid, NaC	and	water		
	` '	::(C)	5 OF HY					
			the m	ain site for selective real	osorpt	ion of glucose, amino	acids,	water and different ions.

WBJ	EEM - 2014 (Answers & Hints) Biology						
57	Which of the following processes was discovered by Lederberg and Tatum (1946)?						
57.	(A) Transduction (B) Transformation (C) Asexual reproduction (D) Conjugation						
	Ans : (D)						
58.	The component of bacteria that retains the crystal violet stain during Gram-staining is						
	(A) O-antigen (B) Lipopolysaccharide						
	(C) Peptidoglycan (D) Cytoplasmic membrane						
	Ans: (C)						
	Hints : During Gram staining alcohol treatment is done. Alcohol solubilises lipid but not peptidoglycan. In Gram positive bacteria lipid percentage is less and peptidoglycan peprcentage is more. So, peptidoglycan which does not						
	gets solubilised retains the stain.						
59.	Which of the following bacteria is observed as chain-like formation?						
	(A) Escherichia coli (B) Bacillus subtilis						
	(C) Sreptococcus pyogenes (D) Micrococcus flavus						
	Ans : (C)						
60.	During gene cloning, the enzyme used to join the insert DNA with the plasmid vector is						
	(A) DNA ligase (B) Restriction endonuclease						
	(C) Alkaline phosphatase (D) Exonuclease						
	Ans : (A)						
	Hints : DNA ligase is also called as molecular glue because it is used to join insert DNA with the plasmid vector.						
	CATEGORY-II						
C	Q.61 to Q.75 carry two marks each, for which only one option is correct. Any wrong answer will lead to						
	deduction of 2/3 mark						
61.	The partial floral formula of a flower is $K_{(5)}C_5A_{(\infty)}G_{(5)}$. Which f the following set of information is conveyed here?						
	(A) Gamosepalous, polypetalous, syncarpous and superior o ary						
	(B) Polysepalous, polypetalous, syncarpous and inf rior ovary						
	(C) Gamosepalous, gamopetalous, polycarpou and superior ovary						
	(D) Gamosepalous, polypetalous, syncarpous and in erior ovary						
~~	Ans:(A)						
62.	. In a plant species, flower colour yellow is dominant over white, and fruit shape round is dominant over elongated. Crossing was performed between two pure nes-one having yellow-flower and round-fruit, and another with white-						
	flower and elongated-fruit. About 20 plants survived in F1 progeny. Plants of F1 were allowed to self-fertilize, and about						
	960 plants survived in F2. If the traits follow Mendelian inheritance, the number of plants would have yellow-flower and						
	round-fruit in F1 and F2 are respectively						
	(A) 20,960 (B) 20,540 (C) 10,180 (D) 10,60						
	Ans:(B)						
	Hints: P: YYRR × vvrr						
	P: YYRR × yyrr (yellow flower / (white flower						
	+ +						
	round fruit) U elongated fruit)						
	F,: YyRr (yellow flower						
	+ \longrightarrow 20 plants						
	round fruit)						
	o ⁷ YyRr × ♀ YyRr						
	r (vellow flower						
	$+ \longrightarrow \frac{9}{16} \times 960$						
	= 540 plants						

Column I Column II P. Control of weeds i. Gibberellin Q. Induction of germination ii. Cytokinin R. Ripening of fruit iii. 2, 4-D S. Delaying of senescence iv. Ethylene (A) P-ii, Q-iv, R-iii, S-i (B) P-iii, Q-i, R-iv, S-ii (C) P-i, Q-ii, R-iv, S-iii (D) P-ii, Q-iii, R-i, S-iv Ans:(B) 64. Out of 38 molecules of ATP produced upon aerobic respiration of glucose, the break up in ATP production in glycolysis (P), pyruvate to acetyl-CoA formation (Q) and Krebs cycle (R) is as follows: (A) P = 2, Q = 6, R = 30 (B) P = 8, Q = 6, R = 24(C) P = 8, Q = 10, R = 20 (D) P = 2, Q = 12, R = 24Ans:(B) 65. The correct sequence of organelles in which glycolate and glyoxylate are produced sequentially in photorespiration, is (A) Chloroplast and mitochondria (B) Chloroplast and peroxisome (C) Peroxisome and mitochondria (D) Peroxisome an chloroplast Ans:(B) 66. Cells die at the time of release of secretary materials in (A) Holocrine gland (B) Apocrine gland (C) Merocr ne gl nd (D) Mixed gland Ans:(A) Hints : Cell die at the time of release of secretary materials in holo rine gland, e.g., Sebaceous gland 67. X-ray is needed for (A) Ultrasonography (B) CT scanning (D) NMR (C) MRI Ans:(B) Hints : A low dose of X-ray is used in CT scan. 68. Which of the following statements is wrong? (A) Test tube baby grows inside test tube (B) Test tube baby grows within mother's womb (C) Test tube baby grows within surrogat mother's womb (D) Test tube baby grows following uterine fertilization Ans:(D) test tube. 69. The correct sequence of emb yonic development is (A) Blastula - Morula - Zygote - Gastrula - Embryo (B) Zygote - Blastula - Morula - Gastrula - Embryo (C) Zygote - Morula - Blastula - Gastrula - Embryo Ans:(C) **Hints** : Sequence of embryonic development is Zygote \rightarrow Morula \rightarrow Blastula \rightarrow Gastrula \rightarrow Embryo 70. The time interval of appearance of fever in the malarial patients depends on the types of malaria. The research evidences suggest that such time intervals are - (1) 36 to 48 hours, (2) 48 hours, and (3) 72 hours. If any such patient experiences fever at an interval of 48 hours, then the said patient suffers from

63. Match the items in column I with those in column II, and choose the CORRECT answer.

- (A) Only benign tertian malaria
- (B) Quarantan malaria or mild tertian malaria
- (C) Malignant tertian malaria or Benign tertian malaria
- (D) Mild tertian malaria or Benign tertian malaria

Ans:(D)

Hints : Patient experiences fever at an interval of 48 hours in mild tertian malaria caused by P. ovale and benign tertian malaria by P.vivax

WBJEEM - 2014 (Answers & Hints)

Biology

Hints : In test tube baby proc dure, the fertilization is in vitro not in the uterus. But it grows upto 4-8 cell stage inside

- (D) Gastrula Morula Zygote Blastula Embryo

WBJEEM - 2014 (Answers & Hints)

- 71. The structure of E. coli chromosomal DNA is (A) Double stranded, right handed and circular (B) Single stranded, right handed and circular (C) Double stranded, left handed and linear (D) Double stranded, left handed and circular Ans : (A) 72. Absorption of vitamin B₁₂ in human requires "P" glycoprotein secreted form "Q". The correct choice of P and Q are (A) P = Extrinsic factor and Q = Stomach (B) P = Intrinsic factor and Q = Stomach (C) P = Intrinsic factor and Q = Small intestine (D) P = Exopolysaccharide and Q = Small intestine Ans:(B) Hints : Castle's intrinsic factor is secreted by oxyntic or parietal cell of stomach. It helps in vitamin B₁₂ absorption. 73. What type of cartilaginous tissue is found in the inter-vertebral discs? (A) Costal cartilage (B) Hyaline cartilage (C) White fibrous cartilage (D) Yellow elastic cartilage Ans:(C) Hints : Inter-vertebral discs are made up of white fibrous cartilage. 74. If spermatogenesis proceeds too rapidly, inhibin is released. Inhibin reduces the secretion of (A) Lutinizing Hormone (LH) (B) Follicle Stimulating Hormone (FSH) (C) Testosterone (D) Interstitial Cell Stimulating Hormone(ICSH) Ans:(B) Hints : Inhibin is secreted from Sertoli cells and inhibits secretion of FSH from anterior pituitary. Which of the following statements are **TRUE** for "Motor rtex" ? It is located in the frontal lobe of cerebral cortex (ii) It contains pyramidal cells (i) (iii) It is responsible for all visual functions (v) It is essential for our thought processes (vi) It regulates voluntary muscular movements
 - (v) It stimulates wakefulness
 - (A) (i), (ii), (iii) and (iv)
 - (C) (ii), (iv), (v) and (vi)

- (B) (ii), (iii), (iv) and (v)
- (D) (i), (ii), (iv) and (vi)

Ans:(D)

75.

Hints : Motor cortex of frontal lobe regulates voluntary muscular movements based on our thought processes. It contains pyramidal and stellate cells.

Biology

CATEGORY - III Q.76 to Q.80 carry two marks each, for which one or more than one options may be correct. Marking of correct options will lead to a maximum mark of two on pro rata basis. There will be no negative marking for these questions. However, any marking of wrong option will lead to award of zero mark against the respective question - irrespective of the number of correct options marked. 76. Identify the correct statement (s) in relation to C4 photosynthesis (A) Kranz anatomy is an essential feature for C4 plants (B) C4 plants have higher water use efficiency than C3 plants (C) Photrespiration can be minimized when C4 pathway is in operation (D) Conversion of oxaloacetate to malate occurs in the bundle sheath cells Ans: (A,B,C) 77. Genetically improved crop varieties can be developed in laboratory by (A) Somatic hybridization (B) Transgenic technology (C) Cell suspension culture (D) Somaclonal variation Ans : (A,B,D) Hints : Somatic hybridization, somaclonal variation and transgenic technology are lab methods to create genetically improved varieties. Sand flies play significant role in spreading Kala-azar because they 78. (A) Suck blood only from the patients suffering from kala-azar (B) Convert amastigote into promastigote (C) Engulf amastigote at the time of blood sucking from the infected persons (D) Inject promastigote into the body of non-infected persons at the time of blood sucking Ans : (B,C,D) **Hints** : Sand fly takes a blood meal and injec s m crophages infected with amastigotes \rightarrow Amastigotes transform into promastigote stage in midgut \rightarrow Divide in midgut and migrate to proboscis \rightarrow Amastigotes again get transferred into the skin of host during taking blood as meal. 79. Which of the following factor(s) increase blood pressure? (A) Increase of cardiac output (B) Constriction of blood vessel (C) Activation of parasympathetic nerve (D) Increase of blood volum Ans : (A,B,D) Hints : Blood pressure increases in case of increased cardiac output, constriction of blood vessels, increase in the volume of blood and by activation of sympathetic nerves. 80. Which of the following statement(s) are **TRUE**? (A) Antibiotics can kill bacteria but disinfectants do not (B) Disinfectants have better bactericidal efficiency than antibiotics

Biology

- (C) Antibiotics are of microbial origin but disinfectants are chemical compounds
- (D) Antibiotics can be injected into the patients whereas disinfectants are not

Ans : (B,C,D)

Hints : Disinfectants are more potent bactericidal agents but cannot be injected into the patients.



WBJEEM - 2014 (Answers & Hints)