# GLOBAL TALENT SEARCH EXAMINATIONS (GTSE)

# CLASS -XII

Max Marks: 100 Time: 11:30 to 12:45 p.m.

# BIOLOGY

#### General Instructions: (Read Instructions carefully)

- 1. All questions are compulsory. First 15 minutes for reading instructions.
- 2. This paper contains **50 objective type questions**. Each question or incomplete sentence is followed by four suggested answers or completions. Select the one that is the most appropriate in each case and darken the correct alternative on the given answer-column, with a pencil or pen.
- 3. For each correct answer 2 marks will be awarded and there is no negative marking.
- 4. No extra sheet will be provided.

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- 5. Use of calculators & mobile is not permitted in examination hall.
- 6. Use of unfair means shall invite cancellation of the test

Name of the Student	:
Roll No.	:
Centre	:
Invigilator's Signature	e:
AMITY INS	<b>TITUTE</b> For Competitive Examinations
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•		mium pollution is associat	ed with				
	(a)	Minimata		(b)	Itai-itai		
	(c)	Bloom syndrome		(d)	Blue-baby syndron	ne	
2.	Aga	mospermous apospory is	formation of embryo				
	(a)	From egg of embryo sa	c proliferated from a	nuce	llar cell		
	(b)	From egg of embryo sa	c formed directly from	m me	egaspore mother cell		
	(c)	Direct from nucellus					
	(d)	Direct from integument					
3.	Whi	ch one of the following is	the most active RNA	A pol	ymerase in eukaryot	es?	
	(a)	RNA polymerase I		(b)	RNA polymerase l	Ι	
	(c)	RNA polymerase III		(d)	All of these		
ŀ.	Whi	ch one of the following ha	as minimum diameter	?			
	(a)	-	B DNA		C DNA	(d)	Z DNA
5.	Whi	ch of the following is an	incorrect statement?				
	(a)	In bacteria the translation	on starts only when tr	ansc	ription is completed		
	(b)	Translation on a mRNA	begins while transcri	ption	is still going on		
	(c)	Capping occurs at the 5	b' end of the mRNA in	1 euk	aryotes only		
	(d)	The split genes occur in	eukaryotes only				
<b>.</b>	Whi	ch one of the following do	bes polymerisation in	5' to	3' direction and exo	nucle	ase activity in both
	and	3' as well as 3' to 5' direc	tion				
	(a)	DNA polymerase I		(b)	DNA polymerase	II	
	(c)	DNA polymerase III		(d)	Exonuclease		
			- : Rough Sp	oace :	-		

8.		-									
			onal in prokaryotes and bidirectional in eukaryotes         nal in prokaryotes and unidirectional in eukaryotes         onal in both prokaryotes as well as in eukaryotes         nal in prokaryotes as well as eukaryotes         nization starts with :         wel       (b) Organismic level         wel       (d) Submicroscopic molecular level         combination of the habitat and the particular animal concerned :         ns       - Bengal Tiger         - Elephant         Kutch       - Wild Ass         National Park       - Snow Leopard         the following the BOD (Biochemical Oxygen Demand) of sewage (S), distillery eff         1 effluent (PE) and sugar mill effluent (SE) have been arranged in ascending order $< S < DE$ (b) $PE < S < SE < DE$								
	(c) (	oding region i	in the eu	karyotes	(d)	Non-coding reg	gion in the	e eukaryotes			
9.	Replica	ation of DNA i	S								
	(a) Unidirectional in prokaryotes and bidirectional in eukaryotes										
	(b) Bidirectional in prokaryotes and unidirectional in eukaryotes										
	(c) Unidirectional in both prokaryotes as well as in eukaryotes										
	(d) E	idirectional in	prokary	yotes as well	as eukaryote	S					
10.	Biological organization starts with :										
	(a) C	ellular level			(b)	Organismic lev	vel				
	(c) A	tomic level			(d)	Submicroscopi	c molecul	ar level			
<ul> <li>(c) Atomic level</li> <li>(d) Submicroscopic molecular level</li> <li>11. Identify the <i>odd</i> combination of the habitat and the particular animal concerned :</li> </ul>											
	. Identify t	underbans	-	Bengal Tige	er						
	(b) F	b) Periyar - Elephant									
	(c) F	ann of Kutch	-	Wild Ass							
	(d) [	achigam Nati	onal Pa	rk - Snow L	eopard						
12.	In which one of the following the BOD (Biochemical Oxygen Demand) of sewage (S), distillery effluent										
	(DE), j	paper mill efflu	uent (PE	E) and sugar 1	mill effluent (	(SE) have been a	rranged in	n ascending order ?			
	(a) S	E < PE < S <	DE		(b)	PE < S < SE <	DE				
	(c) S	< DE < PE <	SE		(d)	SE < S < PE <	DE				
				-:.	Rough Space	:-					

	Ocimum	(b)	Zingiber	(c)	Nepenthes	(d)	Podophyllum		
Geor	metric representa	tion of a	ge structure is	a characte	ristic of :				
(a)	Population	(b)	Landscape	(c)	Ecosystem	(d)	Biotic community		
An e	embryo sac is ter	med mo	nosporic when i	t develops					
(a)	From the mega	aspore n	other cell with	out forma	tion of walls bet	ween its	successively formed		
	daughter nuclei								
(b)	From one of t	wo daug	hter cells of th	e megaspo	ore mother cell f	formed a	fter the first nuclear		
division which is followed by wall formation									
(c)	From one of th	e three d	laughter cells of	f the mega	spore mother cell	l where i	ts first division gives		
	rise to two cells one of which forms the embryo sac and the second cell divides again to form two								
abortive cells									
(d)	From one of the	e four da	ughter cells for	med from t	he megaspore mo	other cell	as a result of meiosis		
Rare	ly among angios	perms, e	mbryo sac like o	organizatio	n is seen in the po	llen graii	n. This abnormality is		
calle	d								
(a)	Metaxenia			(b)	Nemec phenom	nenon			
(c)	Xenia			(d)	Mesogamy				
Double fertilization means									
(a) Fusion of the nucleus of the male gamete with the egg nucleus									
(b)	b) Fusion of two polar nuclei								
(c)	) Fusion of the sperm nucleus with the secondary nucleus								
(d)	l) Fusion of one sperm nucleus with egg nucleus and fusion of the other sperm nucleus with secondary								
	nucleus								
			- : Roi	ugh Space :	:-				
	<ul> <li>(a)</li> <li>An e</li> <li>(a)</li> <li>(b)</li> <li>(c)</li> <li>(d)</li> <li>(c)</li> <li>(c)</li> <li>(c)</li> <li>(b)</li> <li>(c)</li> </ul>	<ul> <li>(a) Population</li> <li>An embryo sac is ter</li> <li>(a) From the mega daughter nuclei</li> <li>(b) From one of ty division which it</li> <li>(c) From one of the rise to two cells abortive cells</li> <li>(d) From one of the Rarely among angiosp called</li> <li>(a) Metaxenia</li> <li>(c) Xenia</li> <li>Double fertilization n</li> <li>(a) Fusion of the n</li> <li>(b) Fusion of two p</li> <li>(c) Fusion of the sp</li> </ul>	<ul> <li>(a) Population (b)</li> <li>An embryo sac is termed more daughter nuclei</li> <li>(a) From the megaspore medaughter nuclei</li> <li>(b) From one of two dauge division which is follower division division which is follower division which is follower division division division division which is follower division divisio</li></ul>	<ul> <li>(a) Population (b) Landscape</li> <li>An embryo sac is termed monosporic when it (a) From the megaspore mother cell with daughter nuclei</li> <li>(b) From one of two daughter cells of the division which is followed by wall form</li> <li>(c) From one of the three daughter cells of rise to two cells one of which forms the abortive cells</li> <li>(d) From one of the four daughter cells form</li> <li>(d) From one of the four daughter cells form</li> <li>(e) From one of the nucleus of the male game</li> <li>(f) Fusion of the sperm nucleus with the sign nucleus</li> </ul>	<ul> <li>(a) Population (b) Landscape (c)</li> <li>An embryo sac is termed monosporic when it develops</li> <li>(a) From the megaspore mother cell without formation daughter nuclei</li> <li>(b) From one of two daughter cells of the megaspore division which is followed by wall formation</li> <li>(c) From one of the three daughter cells of the megasinise to two cells one of which forms the embryo satabortive cells</li> <li>(d) From one of the four daughter cells formed from the Rarely among angiosperms, embryo sac like organization called</li> <li>(a) Metaxenia (b)</li> <li>(c) Xenia (c)</li> <li>Double fertilization means</li> <li>(a) Fusion of the nucleus of the male gamete with the bis Fusion of two polar nuclei</li> <li>(c) Fusion of one sperm nucleus with egg nucleus and functeus</li> </ul>	<ul> <li>An embryo sac is termed monosporic when it develops</li> <li>(a) From the megaspore mother cell without formation of walls bet daughter nuclei</li> <li>(b) From one of two daughter cells of the megaspore mother cell f division which is followed by wall formation</li> <li>(c) From one of the three daughter cells of the megaspore mother cell rise to two cells one of which forms the embryo sac and the second abortive cells</li> <li>(d) From one of the four daughter cells formed from the megaspore mother cells</li> <li>(d) From one of the four daughter cells formed from the megaspore mote celled</li> <li>(a) Metaxenia</li> <li>(b) Nemec phenom</li> <li>(c) Xenia</li> <li>(d) Mesogamy</li> </ul> Double fertilization means <ul> <li>(a) Fusion of the nucleus of the male gamete with the egg nucleus</li> <li>(b) Fusion of the sperm nucleus with egg nucleus and fusion of the other nucleus</li> </ul>	<ul> <li>(a) Population (b) Landscape (c) Ecosystem (d)</li> <li>An embryo sac is termed monosporic when it develops</li> <li>(a) From the megaspore mother cell without formation of walls between its daughter nuclei</li> <li>(b) From one of two daughter cells of the megaspore mother cell formed a division which is followed by wall formation</li> <li>(c) From one of the three daughter cells of the megaspore mother cell where i rise to two cells one of which forms the embryo sac and the second cell divid abortive cells</li> <li>(d) From one of the four daughter cells formed from the megaspore mother cell</li> <li>Rarely among angiosperms, embryo sac like organization is seen in the pollen grain called</li> <li>(a) Metaxenia (b) Nemec phenomenon</li> <li>(c) Xenia (d) Mesogamy</li> <li>Double fertilization means</li> <li>(a) Fusion of the nucleus of the male gamete with the egg nucleus</li> <li>(b) Fusion of one sperm nucleus with the secondary nucleus</li> <li>(d) Fusion of one sperm nucleus with egg nucleus and fusion of the other sperm mucleus</li> </ul>		

8.	Wat	er holding capacity of a soil is increased due	e to							
	(a)	High rainfall	(b)	Regular irrigation						
	(c)	High content of humus	(d)	Rich amount of minerals						
9.	Very	good heterosis in maize crop can be obtain	ed by c	rossing						
	(a)	Cross pollinating varieties								
	(b)	Inbred lines								
	(c)	Varieties which have shown self-sterility								
	(d)	Varieties which give a very high yield as a	result	of outbreeding						
0.	The	germination of seed is favoured by								
	(a)	Red light and P <sub>R</sub>	(b)	Red light and $P_{FR}$						
	(c)	Far red light and P <sub>R</sub>	(d)	Far red light and $P_{FR}$						
<ul><li>19.</li><li>20.</li><li>21.</li><li>22.</li><li>23.</li></ul>	Increase of protein content in potato tubers has been possible by the									
	(a)	A cross between groundnut and potato	(b)	A cross between soybean and potato						
	(c)	Somaclonal variation	(d)	Introducing the nif gene into potato						
2.	XXY	YY condition denotes								
	(a)	Supermale	(b)	Superfemale						
	(c)	Klinefelter syndrome	(d)	Turner syndrome						
3.	Whi	ch one of the following is incorrect ?								
	(a)	In diplospory the egg is diploid								
	(b)	In apospory the egg is diploid								
	(c)	Polyembryony is never seen in apomictic of	embryo	S						
	(d)	Both (b) and (c)								
		- : Rough	Space	·						
		Kougn	spuce :	-						

				- : Roug					
	(u)		C						
	(c) (d)	None of the above		in active states a	5 11 15 101	any deprived of	oxygen		
	(c)	due to exosmosis Bacteria cannot s	urvivo	in activa statas a	a it is tot	ally deprived of	ovugon		
	(b)		vive in	an active state in	a solutio	n of high osomoti	c strength	n causing plasmolysi	
	(a)	It contains natura		-					
29.	Hon	ey has a high conc	entrati	on of sugar but d	oesn't de	ecay, because			
	(d)	All of the above.							
	(c)								
	(b)	) They are present in minute quantity and difficult to isolate and purify.							
	(a)	Stem cells from adults have not been found for all tissues of the body.							
	fron	n human embryo?							
28. Why the adult stem cells are not preferred over embryonic stem cells though they are as flexible as a from human embryo?							re as flexible as cell		
	(a)	Tetanus	(b)	Gonorrhoea	(c)	Mumps	(d)	Amoebiasis	
27.	A di	sease contracted th	rough	wounds, accident	s and im	properly sterilise	d surgica	l instruments is	
	(a)	Amylases	(b)	Lactases	(c)	Proteases	(d)	Lipases	
26.	Baci	illus subtilis and A	sperg	illus niger are reg	garded a	s the best source	e of		
	(a)	Shoot apex	(b)	Stem	(c)	Flower	(d)	Seed	
25.	Viru	s free plant is obtain	ined by	y culturing which	of the fo	llowing part of a	n virus in	fected plant ?	
	(a)	Tapetum	(b)	Nodules	(c)	Ovules	(d)	Both (a) and (b)	

#### **GTSE**

# Biology-XII

30.	Neo	plasms are								
	(a)	Nuclei with massive DNA								
	(b)	Cells without covering membranes								
	(c)	Cells capable of unlimited division								
	(d)	<ul> <li>(c) Cells capable of unlimited division</li> <li>(d) Newly produced cells formed through uncontrolled cell proliferation</li> <li>Pebrine is a severe disease in silk worm. It is caused by parasite</li> <li>(a) Monocystis         <ul> <li>(b) Entamoeba histolytica</li> <li>(c) Trypanosoma</li> <li>(d) Nosema bombycis</li> </ul> </li> <li>Blood groups A, B, AB and O occur in humans. The blood groups A and B are found in apernot in monkeys. This suggests, that <ul> <li>(a) Human, monkeys and apes are related</li> <li>(b) Human beings are more closely related to apes</li> <li>(c) Human beings are more closely related to apes than to monkeys</li> </ul> </li> <li>ELISA is used to <ul> <li>(a) Separate RNA</li> <li>(b) Purify proteins</li> </ul> </li> <li>(c) Isolate DNA of different lengths</li> <li>(d) Identify specific proteins</li> </ul> <li>Adaptive similarities in different animals living in the same habitat is called as <ul> <li>(a) Retrogessive evolution</li> <li>(b) Parallel evolution</li> </ul> </li> <li>Adaptive radiation</li> <li>(d) Convergent evolution</li> <li>A decrease in the level of oestrogen and progesterone causes <ul> <li>(a) Growth and dilation of myometrium</li> <li>(b) Loss of endometrium</li> </ul></li>	d cell proliferation							
31.	Pebi	rine is a severe disease in silk worm. It is caus	ed by	y parasite						
	(a)	Monocystis	(b)	Entamoeba histolytica						
	(c)	Trypanosoma	(d)	Nosema bombycis						
32.	Bloo	od groups A, B, AB and O occur in humans.	The	blood groups A and B are found in apes but						
	not	not in monkeys. This suggests, that								
	(a)	Human, monkeys and apes are related								
	(b)	Human beings are more closely related to apes								
	(c)	Human beings are more closely related to monkeys								
	(d)	) Human beings are more closely related to apes than to monkeys								
33.	ELI	ELISA is used to								
	(a)	Separate RNA	(b)	Purify proteins						
	(c)	Isolate DNA of different lengths	(d)	Identify specific proteins						
34.	Ada	ptive similarities in different animals living in t	he sa	me habitat is called as						
	(a)	Retrogessive evolution	(b)	Parallel evolution						
	(c)	Adaptive radiation	(d)	Convergent evolution						
35.	A de	ecrease in the level of oestrogen and progeste	rone	causes						
	(a)	Growth and dilation of myometrium								
	(b)	Loss of endometrium								
	(c)	Constriction of uterine blood vessels leading to sloughing of uterine epithelium								
	(d)	Release of ovum from the ovary.								
		- : Rough S	pace :	-						

			Space : -								
	(c)	Genetic drift	(d) All known envi	ironmental factors							
	(a)	Mendelian ratios	(b) Hardy-Weinber	g equation							
1.	Mici	roevolution can be measured by comparing	bserved allelic frequer	cies with those predicted by							
	(c)	Systemic lupus erythematosus	(d) Erythroblastosi	is foetalis							
	(a)	Asthma	(b) Xeroderma pig	mentosum							
0.	Whi	ch of the following diseases is common an	g individuals with defi	cient immune systems?							
	(c)	Homo neanderthalensis	(d) Homo sapiens	sapiens							
	(a)	Homo heidelbergenesis	(b) Homo sapiens	fossilis							
9.	Whi	<ul> <li>Unfertilised eggs die while fertilised ones form all castes.</li> <li>Which member of the genus <i>Homo</i> has (had) the largest cranial capacity</li> </ul>									
	(d)										
	(c)	Three type forming queen, drone and we	ers								
	<ul><li>(a) One type from which an castes develop</li><li>(b) Two types, one forming queen and workers and second forming drones</li></ul>										
	(a)	One type from which all castes develop									
8.	A qı	ueen honey bee lays eggs of									
	(a)	Interferons (b) Antibiotics	(c) Cytotoxins	(d) Lymphokines							
7.		senger molecules secreted by helper T cel		Cs are called							
	(d)	Barbiturates cause relaxation and tempo									
	(c)	Morphine leads to delusions and disturb									
	(b)	<i>Opium</i> stimulates nervous system and ca									
	(a)	Hashish causes after thought perception	nd hallucinations								

#### **Biology-XII GTSE** 42. The best way to control human population of a country, is To have better housing (a) To educate people (b) To practice and implement family planning (c) To kill people on a large scale (d) 43. A transgenic organism (a) Is a strain developed by crossbreeding (b) Is produced through artificial fertilization Has some foreign genes inserted in its genome (c) (d) Is a thoroughly selected strain for its genotype 44. The function of progesteron present in oral contraceptive pills is (a) To inhibit follicular maturation (b) To stop ovulation To immobilize sperms (d) Statement is incorrect (c) 45. Which of the following is used to manufacture ethanol from starch? Penicillium (c) Azotobactor (d) Lactobacillus (a) (b) Saccharomyces 46. The nervous disorders characterised by distorted thoughts, disturbed emotions with incoherent and bizarre behaviour is called (b) Schizophrenia (d) Parkinsonism (a) Epilepsy (c) Psychosis 47. Who among the following established the fact that "mitochondria and chloroplast were the separate types of prokaryotes existing independently"? Margulius (b) Sydney fox (d) Haldane (a) (c) Oparin 48. The embryonic development that permits the egg to possess minimum amount of yolk is (a) Oviparous Ovo-viviparous (b) (c) Viviparous (d) Amount of yolk in egg and development are not interrelated -: Rough Space : -

**GTSE** 

49. Match items in columns I and II and pick up the correct sequence

Α.	AIDS	i.	Yersinia pestis						
В.	Syphilis	ii.	Hepatitis-B virus						
C.	Viral jaundice	iii.	Treponema pallidum						
D.	STD	iv.	Neisseria gonorrhoea						
		v.	HIV						
(a)	A = v, B - iii, C -	ii, D	- iv (b)	A = v, B - ii, C - iii, D - iv					
(c)	A = v, B - ii, C -	iii, D	- i (d)	A = v, B - iii, C - i, D - iv					
Rar	Random drift is the elimination of								
(a)	Individuala								

- (a) Individuals
  - (b) Chromosomes
  - (c) Species

50.

(d) Genes of some original characteristics of a species due to epidemics

- : Rough Space : -

## Answers: Class XII (Biology)

1.	(b)	2.	(a)	3.	(b)	4.	(d)	5.	(a)
6.	(a)	7.	(b)	8.	(b)	9.	(d)	10.	(d)
11.	(b)	12.	(b)	13.	(d)	14.	(a)	15.	(d)
16.	(b)	17.	(d)	18.	(c)	19.	(b)	20.	(b)
21.	(c)	22.	(c)	23.	(c)	24.	(a)	25.	(a)
26.	(a)	27.	(a)	28.	(d)	29.	(b)	30.	(d)
31.	(d)	32.	(d)	33.	(d)	34.	(d)	35.	(c)
36.	(a)	37.	(d)	38.	(b)	39.	(b)	40.	(c)
41.	(b)	42.	(d)	43.	(c)	44.	(b)	45.	(b)
46.	(b)	47.	(a)	48.	(c)	49.	(a)	50.	(d)