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.
- 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:					

AMITY INSTITUTE FOR COMPETITIVE EXAMINATIONS

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Biolo	ogy-XII	GTSE
1.	Cadmium pollution is associated with	

(b) Itai-itai

(d) Blue-baby syndrome

2. Agamospermous apospory is formation of embryo(a) From egg of embryo sac proliferated from a nucellar cell

(b) From egg of embryo sac formed directly from megaspore mother cell

(c) Direct from nucellus

Minimata

Bloom syndrome

(a)

(d) Direct from integument

3. Which one of the following is the most active RNA polymerase in eukaryotes?

(a) RNA polymerase I

(b) RNA polymerase II

(c) RNA polymerase III

(d) All of these

4. Which one of the following has minimum diameter?

(a) A DNA

(b) B DNA

(c) C DNA

(d) Z DNA

5. Which of the following is an incorrect statement?

(a) In bacteria the translation starts only when transcription is completed

(b) Translation on a mRNA begins while transcription is still going on

(c) Capping occurs at the 5' end of the mRNA in eukaryotes only

(d) The split genes occur in eukaryotes only

6. Which one of the following does polymerisation in 5' to 3' direction and exonuclease activity in both 5' and 3' as well as 3' to 5' direction

(a) DNA polymerase I

(b) DNA polymerase II

(c) DNA polymerase III

(d) Exonuclease

- 7. Which one of the following reduces the rate of transcription?
 - (a) Enhancer
- (b) Silencer
- (c) Pribnow box
- (d) G-C box

- 8. The leader sequence in a mRNA is the
 - (a) Coding region in the prokaryotes
- (b) Non-coding region in the prokaryotes
- (c) Coding region in the eukaryotes
- (d) Non-coding region in the eukaryotes

- 9. Replication of DNA is
 - (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) Bidirectional in prokaryotes as well as eukaryotes
- 10. Biological organization starts with:
 - (a) Cellular level

(b) Organismic level

(c) Atomic level

- (d) Submicroscopic molecular level
- 11. Identify the *odd* combination of the habitat and the particular animal concerned :
 - (a) Sunderbans
- Bengal Tiger
- (b) Periyar
- Elephant
- (c) Rann of Kutch
- Wild Ass
- (d) Dachigam National Park Snow Leopard
- 12. In which one of the following the BOD (Biochemical Oxygen Demand) of sewage (S), distillery effluent (DE), paper mill effluent (PE) and sugar mill effluent (SE) have been arranged in ascending order?
 - (a) SE < PE < S < DE

(b) PE < S < SE < DE

(c) S < DE < PE < SE

(d) SE < S < PE < DE

13.	3. One of endangered species of Indian medicinal plants is that of											
10.	(a)	Ocimum		Zingiber		Nepenthes	(d)	Podophyllum				
	()		(-)	8.4.4	(-)		()	_F				
14.	Geor	metric representation	n of a	ge structure is a cha	racte	ristic of:						
	(a)	Population	(b)	Landscape	(c)	Ecosystem	(d)	Biotic community				
15.	An e	mbryo sac is termed	d mor	nosporic when it dev	elops							
	(a)	From the megaspo	ore m	other cell without f	ormat	ion of walls betwee	n its	successively formed				
		daughter nuclei										
	(b)	(b) From one of two daughter cells of the megaspore mother cell formed after the first nuclear										
	division which is followed by wall formation											
	(c)	From one of the th	nree d	laughter cells of the	mega	spore mother cell wh	nere it	s first division gives				
		rise to two cells on	e of v	which forms the emb	yo sa	c and the second cell	divid	les again to form two				
		abortive cells										
	(d)	From one of the fo	ur da	ughter cells formed f	rom t	he megaspore mother	r cell	as a result of meiosis				
16.	Rare	ly among angiosperi	ms, eı	mbryo sac like organi	izatio	n is seen in the pollen	grain	a. This abnormality is				
	calle	d										
	(a)	Metaxenia			(b)	Nemec phenomeno	n					
	(c)	Xenia			(d)	Mesogamy						
17.	Doul	ole fertilization mear	ns									
	(a)	Fusion of the nucle	eus o	f the male gamete w	ith the	e egg nucleus						
	(b)	Fusion of two pola	r nuc	lei								
	(c)	Fusion of the speri	m nuc	cleus with the second	lary n	ucleus						
	(d)	Fusion of one sperr	n nuc	leus with egg nucleus	and f	usion of the other spe	rm nu	cleus with secondary				
		nucleus				•						

18.	Wate	er holding capacity of a soil is increased due to)	
	(a)	High rainfall	(b)	Regular irrigation
	(c)	High content of humus	(d)	Rich amount of minerals
19.	Very	good heterosis in maize crop can be obtained	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 re-	esult (of outbreeding
20.	The	germination of seed is favoured by		
	(a)	Red light and P _R	(b)	Red light and P _{FR}
	(c)	Far red light and P _R	(d)	Far red light and P _{FR}
21.	Incre	ease of protein content in potato tubers has be	en po	ossible 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
22.	XXY	YY condition denotes		
	(a)	Supermale	(b)	Superfemale
	(c)	Klinefelter syndrome	(d)	Turner syndrome
23.	Whic	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 em	bryo	s
	(d)	Both (b) and (c)		
		Danal C		

	- : Rough Space : -									
	(d) None of the above									
	(c)			e in active states as it	is tot	tally deprived of oxy	gen			
		due to exosmosis								
	(b)	Bacteria can't surv	ive in	an active state in a so	olutio	n of high osomotic str	engtl	a causing plasmolysis		
	(a)	It contains natural	antic	oxidant that prevents	the ba	acterial attack				
29.	Hone	ey has a high conce	ntrati	on of sugar but does	sn't de	ecay, because				
	(d)	All of the above.								
	(c)	They have less cap	pacity	y to proliferate.						
	(b)	They are present in	n min	ute quantity and diffi	icult t	o isolate and purify.				
	(a)	Stem cells from ac	lults	have not been found	for al	l tissues of the body.				
	from	human embryo?								
28.	Why	the adult stem cells	are r	not preferred over em	bryon	ic stem cells though t	they a	re as flexible as cells		
	(a)	Tetanus	(b)	Gonorrhoea	(c)	Mumps	(d)	Amoebiasis		
27.	A di	sease contracted thre	ough	wounds, accidents as	nd im	properly sterilised su	rgica	l instruments is		
	(a)	Amylases	(b)	Lactases	(c)	Proteases	(d)	Lipases		
26.			_	illus niger are regar						
	(a)	Shoot apex	(b)	Stem	(c)	Flower	(d)	Seed		
25.		-	•	y culturing which of				-		
		•								
24.	(a)	Tapetum		Nodules	(c)	Ovules	(d)	Both (a) and (b)		
24.	Endo	oploidy occurs in the	e cell	s of the						

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30.	Neo	olasms	are

- (a) Nuclei with massive DNA
- (b) Cells without covering membranes
- (c) Cells capable of unlimited division
- (d) Newly produced cells formed through uncontrolled cell proliferation
- 31. Pebrine is a severe disease in silk worm. It is caused by parasite
 - (a) Monocystis

(b) Entamoeba histolytica

(c) Trypanosoma

- (d) Nosema bombycis
- 32. Blood groups A, B, AB and O occur in humans. The blood groups A and B are found in apes but 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. ELISA is used to
 - (a) Separate RNA

- (b) Purify proteins
- (c) Isolate DNA of different lengths
- (d) Identify specific proteins
- 34. Adaptive similarities in different animals living in the same habitat is called as
 - (a) Retrogessive evolution

(b) Parallel evolution

(c) Adaptive radiation

- (d) Convergent evolution
- 35. A decrease in the level of oestrogen and progesterone 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.

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		- : Rough S	pace :	:-								
	(c)	Genetic drift	(d)	All known environmental factors								
	(a)	Mendelian ratios	(b)	Hardy-Weinberg equation								
41.	Micı	roevolution can be measured by comparing of	serve	ed allelic frequencies with those predicted by								
	(c)	Systemic lupus erythematosus	(d)	Erythroblastosis foetalis								
	(a)	Asthma	(b)	Xeroderma pigmentosum								
40.	Whi	ch of the following diseases is common among	g indi	viduals with deficient immune systems?								
	(c)	Homo neanderthalensis	(d)	Homo sapiens sapiens								
	(a)	Homo heidelbergenesis	(b)	Homo sapiens fossilis								
39.	Whi	ch member of the genus <i>Homo</i> has (had) the	larges	st cranial capacity								
	(d)	Unfertilised eggs die while fertilised ones fo	rm al	ll castes.								
	(c)	Three type forming queen, drone and workers										
	(b)	Two types, one forming queen and workers and second forming drones										
	(a)	a) One type from which all castes develop										
38.	A qu	neen honey bee lays eggs of										
	(a)	Interferons (b) Antibiotics	(c)	Cytotoxins (d) Lymphokines								
37.	Mes	ssenger molecules secreted by helper T cells, that recruit other WBCs are called Interferons (b) Antibiotics (c) Cytotoxins (d) Lymphokines										
	(d)	Barbiturates cause relaxation and temporary euphoria										
	(c)	Morphine leads to delusions and disturbed	emoti	ons								
	(b)	Opium stimulates nervous system and cause	es hall	lucinations								
	(a)	Hashish causes after thought perceptions ar	nd hal	llucinations								
36.	Whi	ch one of the following is the <i>correct</i> statement	regar	rding the particular psychotropic drug specified?								

42. The best way to control human population of a country, is									
(a)	To educate peop	le		(b)	To have better ho	using			
(c)	To kill people on	a large	e scale	(d)	To practice and in	npleme	nt family planning		
A tra	ansgenic organism								
(a)	Is a strain develo	oped by	crossbreeding						
(b)	Is produced throu	ıgh arti	ficial fertilization						
(c)	Has some foreig	n gene	s inserted in its gene	ome					
(d)	Is a thoroughly s	elected	strain for its genot	ype					
The	function of proges	teron p	oresent in oral contra	aceptiv	re pills is				
(a)	To inhibit follicul	ar matı	ıration	(b)	To stop ovulation				
(c)	To immobilize sp	erms		(d)	Statement is incorrect				
Whi	ch of the following	g is use	d to manufacture et	hanol	from starch?				
(a)	Penicillium	(b)	Saccharomyces	(c)	Azotobactor	(d)	Lactobacillus		
The	nervous disorders	chara	cterised by distorte	ed thou	ghts, disturbed en	notions	with incoherent and		
biza	rre behaviour is ca	lled							
(a)	Epilepsy	(b)	Schizophrenia	(c)	Psychosis	(d)	Parkinsonism		
Who among the following established the fact that "mitochondria and chloroplast were the separate									
type	s of prokaryotes e	xisting	independently"?						
(a)	Margulius	(b)	Sydney fox	(c)	Oparin	(d)	Haldane		
The	embryonic develop	pment 1	that permits the egg	to pos	sess minimum amo	ount of	yolk is		
(a)	Oviparous								
(b)	Ovo-viviparous								
(c)	Viviparous								
(d)	Amount of yolk	in egg	and development are	e not ii	nterrelated				
			. Daugh	Snace :					
			- : Kough	эрисе :	-				
	(a) (c) A transfer (a) (b) (c) (d) The (a) (a) What type (a) The (a) (b) (c)	(a) To educate peop (c) To kill people on A transgenic organism (a) Is a strain develo (b) Is produced throu (c) Has some foreig (d) Is a thoroughly s The function of proges (a) To inhibit follicul (c) To immobilize sp Which of the following (a) Penicillium The nervous disorders bizarre behaviour is ca (a) Epilepsy Who among the following (a) Margulius The embryonic develop (a) Oviparous (b) Ovo-viviparous (c) Viviparous	(a) To educate people (c) To kill people on a large A transgenic organism (a) Is a strain developed by (b) Is produced through article (c) Has some foreign general (d) Is a thoroughly selected The function of progesteron period (a) To inhibit follicular matter (c) To immobilize sperms Which of the following is use (a) Penicillium (b) The nervous disorders charal bizarre behaviour is called (a) Epilepsy (b) Who among the following estypes of prokaryotes existing (a) Margulius (b) The embryonic development of (a) Oviparous (b) Ovo-viviparous (c) Viviparous	(a) To educate people (c) To kill people on a large scale A transgenic organism (a) Is a strain developed by crossbreeding (b) Is produced through artificial fertilization (c) Has some foreign genes inserted in its genetical development are strain for its genetical development are scaled. (b) Is a thoroughly selected strain for its genetical development are strain for its genetical development are scaled. (c) To immobilize sperms Which of the following is used to manufacture etc. (a) Penicillium (b) Saccharomyces The nervous disorders characterised by distorted bizarre behaviour is called. (a) Epilepsy (b) Schizophrenia Who among the following established the fact to types of prokaryotes existing independently"? (a) Margulius (b) Sydney fox The embryonic development that permits the egg. (a) Oviparous (b) Ovo-viviparous (c) Viviparous (d) Amount of yolk in egg and development are	(a) To educate people (b) (c) To kill people on a large scale (d) A transgenic organism (a) Is a strain developed by crossbreeding (b) Is produced through artificial fertilization (c) Has some foreign genes inserted in its genome (d) Is a thoroughly selected strain for its genotype The function of progesteron present in oral contraceptive (a) To inhibit follicular maturation (b) (c) To immobilize sperms (d) Which of the following is used to manufacture ethanol is (a) Penicillium (b) Saccharomyces (c) The nervous disorders characterised by distorted thous bizarre behaviour is called (a) Epilepsy (b) Schizophrenia (c) Who among the following established the fact that "m types of prokaryotes existing independently"? (a) Margulius (b) Sydney fox (c) The embryonic development that permits the egg to pose (a) Oviparous (b) Ovo-viviparous (c) Viviparous (d) Amount of yolk in egg and development are not in	(a) To educate people (b) To have better ho (c) To kill people on a large scale (d) To practice and in A transgenic organism (a) Is a strain developed by crossbreeding (b) Is produced through artificial fertilization (c) Has some foreign genes inserted in its genome (d) Is a thoroughly selected strain for its genotype The function of progesteron present in oral contraceptive pills is (a) To inhibit follicular maturation (b) To stop ovulation (c) To immobilize sperms (d) Statement is inco Which of the following is used to manufacture ethanol from starch? (a) Penicillium (b) Saccharomyces (c) Azotobactor The nervous disorders characterised by distorted thoughts, disturbed en bizarre behaviour is called (a) Epilepsy (b) Schizophrenia (c) Psychosis Who among the following established the fact that "mitochondria and characterised of prokaryotes existing independently"? (a) Margulius (b) Sydney fox (c) Oparin The embryonic development that permits the egg to possess minimum and can Oviparous (b) Ovo-viviparous (c) Viviparous	(a) To educate people (b) To have better housing (c) To kill people on a large scale (d) To practice and implement A transgenic organism (a) Is a strain developed by crossbreeding (b) Is produced through artificial fertilization (c) Has some foreign genes inserted in its genome (d) Is a thoroughly selected strain for its genotype The function of progesteron present in oral contraceptive pills is (a) To inhibit follicular maturation (b) To stop ovulation (c) To immobilize sperms (d) Statement is incorrect Which of the following is used to manufacture ethanol from starch? (a) Penicillium (b) Saccharomyces (c) Azotobactor (d) The nervous disorders characterised by distorted thoughts, disturbed emotions bizarre behaviour is called (a) Epilepsy (b) Schizophrenia (c) Psychosis (d) Who among the following established the fact that "mitochondria and chloroplatypes of prokaryotes existing independently"? (a) Margulius (b) Sydney fox (c) Oparin (d) The embryonic development that permits the egg to possess minimum amount of (a) Oviparous (b) Ovo-viviparous (c) Viviparous (d) Amount of yolk in egg and development are not interrelated		

- 49. Match items in columns I and II and pick up the correct sequence
 - A. AIDS
- i. Yersinia pestis
- B. 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
- 50. Random drift is the elimination of
 - (a) Individuals
 - (b) Chromosomes
 - (c) Species
 - (d) Genes of some original characteristics of a species due to epidemics

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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)