## B.Sc. (Hons) 2015-16 SECTION I - ENGLISH

1.	Smoking is injurious to health,	smoking is:	
	(a) Infinitive (b) Adverbe	(c) Participle	(d) Gerund
2.	Choose the correct sentence:		
3	(a) The teacher gave us a test i	n English	
	(b) The teacher took us a test in English		
	(c) The teacher takes us a test i		
	(d) The teacher conducts so a t		
3.	I him good night	.03.6	
	(a) Said (b) Wished	(c) Shake	(d) Shook
4.	My sister is to me, Poac	hing of is	prohibited
.,	(a) Dear, deer (b) Deer, Dear	(c) Devear, deep	r (d) Deear, deer
	The word "bashful" means	(6) 20) 611, 110	
	(a) Confident (b) To throw a b	pash (c) Shy	(d) Brave
6.	"As graceful as a		
	(a) Duck (b) Hawk		(d) Fox
7.	The antonym of "precious" is	r. r	
	(a) Valuable (b) Worthless	(c) Rare	(d) Treasured
8.	Choose the correct sentence:		
	(a) Each of the teachers were	very cooperative	in a d
	(b) Each of the teacher was ve	ery cooperative	
	(c) Each of the teachers was v		
	(d) Every of the teachers was		
9.	The phrasal very "break down	means:	
	(a) To break something	(b) To stop wor	king
	(c) To start crying	(d) Both (b) and	d (c)
10.	Choose the incorrect pair:		
(a) Tooth: teeth		(b) Goose: gooses	
	(c) Child: children	(d) Sheep: shee	<b>p</b>
11.	The meaning of Transient is:	(1) D	
	(a) Transparent	(b) Permanent	
	(c) Temporary	(d) Opaque	
12	2. A story that expresses ideas through symbols:		
	(a) Allegory (b) Fable (c) F	antomime (	(d) Swan song

13. Anarchy is	B.Sc3
1 Laudi	ntuite
(b) Absence of government	Section: 11 160 aucleus, an a particle is
(b) Absence of government	Section: 11 Physics 6. If a deduteron is bombarded on <sup>16</sup> <sub>9</sub> O nucleus, an a particle is sited. The product nucleus is:
(c) Government by a king (d) Government by laws of religion	emitted. The product indicate
(d) Government by laws of religion  14. Our team lost the football match although the boys	13 N (b) 5B
von cond and and amount match annough the boys	14 1/ 7
very good performance	(c) 4 C. L. i. G. I. I is not agriculated to:
(a) put in (b) put up (c) put on (d) put off	7. Unit of electric field is not equivalent to: (a) N/coulomb (b) J/coulomb
15. What is the antonym of 'frugality'?	(a) Woodlomb m
(a) Miserliness (b) Economy	the into two pieces of masses 4
(c) Extravagance (d) Thrifty	28. A bomb of 12 kg (at rest) explodes into two plants and 8 kg. The velocity of 8 kg mass is 6 m/s. The kinetic
16. If I take a state roadways bus, I'll get late,?	kg and 8 kg. The velocity of 8 kg.
(a) isn't it (b) won't 1 (c) will 1 (d) is it	energy of the smaller mass is.
17. One who has little faith in human sincerity and goodness:	(a) 288 I
(a) Egotist (b) Fatalist - (c) Stoic (d) Cynic	c) and charge o moves along a
18. A person who walks in sleep.	
(a) Somnambulist (b) Sadist	
(c) Pedestrian (d) Itinerant	field B. The time taken by the particle to compe
19. Don't shed <u>crocodile tears:</u>	revolution is:
(a) Tears of a crocodile (b) Insincere sorrow	(b) —
(c) Weeping like crocodile (d) Tears of regret	$\binom{a}{m}$ m
20. "Pie in the sky" suggest:	(c) $\frac{2\Lambda qb}{m}$ (d) $\frac{2\Lambda m}{aB}$
(a) A beautiful surrounding (b) Rainy season	(C) m
(c) Event unlikely to happen (d) Foreign traditions	30. Fleming's left hand and right hand rules are used in:
21. Find the odd one out:	(a) D.C. Motors and A.C., Generators
(a) Stale: fresh (b) truth: lie	(b) D.C. Generators and A.C. Motors
(c) Slow:sluggish (d) Teach; Joons	(c) D.C. Motors and D.C. Generators
2. A loud deep of an owl breaks the silence of the	(1) Doth miles are same any one can be used
dreadful night	The speed of a body is doubled when it moves over a distance
(a) Hoot (b) W 11	of 10 m. If the initial speed is v, its speed after it covers a
	further distance of 10 m will be:
A graphologist deals with:	Turner distance of the thirty of the second of
(a) Writing (b) Feet (c) Eyes (d) Tooth	$(b) \sqrt{6} $
Which of the following is an irregular verb?	(d) v/8
(a) Call (b) Hone	log with a light waves suffer reflection at the interface from an
(a) Dacut	glass the change in phase of the reflected wave is equal to
. Synonym of <i>Drench</i> is:	(a) (a) (b) N2
(a) Wat	(a) 0 (c) \(\Lambda\)
(a) Wet (b) Rain (c) Soak (d) Dry	(c) \(\Lambda\)
20 15kg - 1.5 gg 1985 1.7 gallet 5 Tel 2015 1.5 cm - 1.8 bibliot 2016 1881 1.5 cm - 1.4 bibliot 2016	

(d)3

(d) Cu

(d) 10\square

(d)  $4\pi + \sqrt{3} - \frac{1}{\sqrt{3}}$ 

2015-2016 B.Sc.-8 71. Which one of the following is an extensive property? (b) Density (a) Temperature (d) pressure (c) Volume 72. If a reaction is first order in A and second order in B, then the differential rate equationis is: (a) Rate= $K[A][B]^1$ (b) Rate= $K[A][B]^2$ (c) Rate= $K[A]^2[B]$ (d) Rate= $k[A]^{14}[B]$ 73. If dispersed phase is liquid and dispersion mediums is solid, the colloid is classified as: (a) Sol (b) Gel (c) Aerosol (d) Foam 74. On the decrease of concentration of electrolyte, the conductivity: (a) Increases (b) Decreases (c) Remains constant (d) May increase or decrease depending upon the nature of electrolyte 75. An isobar of 20Ca<sup>40</sup> is: (a)  $_{18}Ar^{40}$ (b)  $_{20}$ Ca<sup>38</sup> (c)  $_{20}$ Ca $^{42}$ (d)  $_{18}Ar^{38}$ **Section IV- Mathematics** 76. If  $A = \{(x,y): x^2 + y^2 = 25\}$  and  $B = [(x,y): x^2 + 9y^2 = 144]$ , the AA B contains (a) one point (b) three points (c) two points (d) four points 77. The value of x for the maximum value of  $\sqrt{3}Cos x + \sin x$  is

(b)  $60^{\circ}$ 

 $(d) 90^{\circ}$ 

· is equal to

(a)  $30^{\circ}$ 

 $(c) 45^0$ 

If z is a complex number, then |z-3|+|z+3|=10 represents (a) a circle (b) an ellipse (c) a hyperbola (d) none of these If |x| < 1, then the coefficient of  $x^n$  in the expansion of  $(1+x+x^2+x^3+...)^2$  is (b) n-1 (a) n (d) n+1(c) n+2A sequence is a ternary sequence, if it contains dights 0.1 and 2. The total number of ternary sequence of length 9 which either begin with 210 or end with 210 is (a) 1458 (b) 1431 (d) 707 (c) 729 If sin y=x sin (a+y), then  $\frac{dy}{dx}$  is equal to (a)  $\frac{\sin y}{\sin^{2(a+y)}}$ (b)  $\frac{1}{\sin^{2(a+y)}}$  $(c)\frac{\sin^2\left(a+y\right)}{}$  $\sin x \cos x$ , where p is a constant then If f(x) = 6 $\frac{d^3}{dx^3}(f(x))_{x=0}$  is equal to: (b) 1 (a) 0 (d) None of these (c) - 1Let  $(x)=(2-\frac{x}{a})(2-\frac{x}{a})^{\tan(\frac{nx}{2a})}$  $(a)^{\frac{2}{\pi}}$ (d)  $e^{2/\pi}$ (c)2dx, then I is equal to (a)  $4\pi$ 

(c)  $2 \pi - \sqrt{3}$ 

86. The value of  $\int_0^{\pi/2}$ 

(a)  $\pi/4$ 

(c)  $3\pi/4$ 

(d) None

87. A ladder 5 meter long standing on a horizontal floor leans against a vertical wall,. If the top of the ladder slides downwards at the rate of 10 cm/sec. When the lower end of the ladder is 2 meter from the wall, the rate, at which the angle between the floor and ladder decreasing, is

- (a) 0.5 rad/sec
- (b) 0.05 rad/sec
- (c) 0.005 rad/sec
- (d) None of these

88. The equation of the curve passing through the point  $(1, \pi/4)$ and having slope of tangent at any point (x,y) as  $\frac{y}{x} - \cos^2(\frac{y}{x})$  is

- (a)  $x=1-\tan(\frac{y}{x})$
- (b)  $x=e^{-tan(y/x)}$
- (c)  $x=e^{1-tan-1\left(\frac{y}{x}\right)}$
- (d)  $x=e^{1-tan(\frac{y}{x})}$

89. If y(t) is a solution of (1+t)  $\frac{dy}{dt}$ -ty=1 and y(0)=-1, then y(1) is equal to

(a)  $-\frac{1}{2}$ 

(b)  $e + \frac{1}{2}$ 

(c)  $e^{-\frac{1}{a}}$ 

90. Integrating factor of the differential equation  $\frac{dy}{dx} + y = \frac{1+y}{x}$  is

(a)  $\frac{x}{e^x}$ 

(c) xe

91. \( \overline{\phi} \) is a cube root of unity, then equal to

(a)  $x^3+1$ 

(b)  $x^3 + \omega$ 

(c)  $x^3 + \omega^2$ 

 $(d) x^3$ 

 $\alpha$  and B is inverse of

- A, then the value a is
- (b) 2(a) 0
- (c) 4

If the system if linear equations x+y+z=6, x+2y+3z=14 and  $2x+5y+\lambda z=\mu (\lambda,\mu \in \mathbb{R})$  has a unique solution the

(a)  $\lambda \neq 8$ 

- (b)  $\lambda = 8, \mu \neq 36$
- (c)  $\lambda = 8$ ,  $\mu = 36$
- (d) None

94. The quadratic equation whose roots are reciprocal of the roots of the equation ax2+bx+c=0 is

- (a)  $bx^2+cx+a=0$
- (b)  $cx^2+bx+a=0$
- (c)  $cx^3 + ax + b = 0$
- (d)  $bx^2 + ax + c = 0$

95. If three students, A,B,C, can solve a problem with probabilities 1/3, 1/4 and 15 resepectively, then the probability that the problem will be solved is

- (a) 2/5
- (b) 3/5
- (c) 4/5
- (d) None

96. Using cofactors of elements of second row, the value of the

determinant  $\Delta = |2|$ 

- (a) 7
- (c) 5

97. If  $A = \begin{bmatrix} 2 & 3 \\ 1 & -4 \end{bmatrix}$  and  $B = \begin{bmatrix} 1 & -2 \\ -1 & 3 \end{bmatrix}$  then  $(AB)^{-1}$  is given by

- (b)  $\frac{1}{14}\begin{bmatrix} 11 & 4\\ 5 & 1 \end{bmatrix}$

98. The equation of the normal the point (1,1) on the curve  $2y+X^2=3$  is

- (a) x+y=0
  - (b) x-y=0
- (c) x+y+1=0
- (d) x-y+1=0(d) Median

99. The positional average of central tendency is

- (b) HM (a) GM
- (c) AM
- 100. The inverse of a symmetric matrix is
  - (a) symmetric
- (b) Skew-symmetric
- (c) diagonal matrix
- (d) none of these

Section V- Biology

101. In which type of cell the primitive form of nucleus is found in?

(a) Prokaryotic cell

(b) Eukaryotic cell

(c) Virus

(d) none of above

102. Who discovered conjugation in bacteria?

(b) Zinder & Lederberg

(a) Khorana

(c) Beadle & Tatum

(d) Lederberg & Tatum

103. The deficiency of molybdenum results in

(a) Wilting of plants (b) Increase in plant growth

(c) Chlorosis of leaves (d) Molting and necrosis of leaves

104. Turner's syndrome is caused due to

(a) Presence of an additional copu of x-chromosome

(b) Presence of an additional copy of chromosome number 21

(c) Absence of one of x-chromosomes (45 with XO)

(d) Change in one base in gene codig for hemoglobin 105. The non-motile gametes are produced by the member of

(a) Chlorophyceae

(b) Rhodophyceae

(c) Cyanophceae

angiosperms

(d) Phaeophyceae 106. Which of the following cell is featured in majourity of

(a) Albuminous cells

(b) Sieve cells

(c) Trachieds

(d) Companion cells

107. The tapetum nourishes the developing

(a) Embryo (c) Nucellus

(b) Endosperm (d) Pollen grains

108. The sporangia bearing leaves of Pterodophytes are called

(a) Microphylls

(b) Sporophylls

(c) Megaphylls

(d) Macrophylls

109. Chemiosmotic hypothesis for ATP generation during oxidative phosphorylation was proposed by

(a) Melvin Calvin

(b) Joshua Lederberg

(c) Peter Mitchell (d) Selman A. Waksman.

10. Important objectives of biotechnology in agriculture sector is

(a) To produce pest resistance varieties (b) To increase the nitrogen content

(c) To decrease the seed number

(d) To increase the plant weight

B.Sc.-13 111. Puccinia graminis iritici caused rust disease in

(b) Wheat (a) Gram

(c) Rice

(d) Pea

112. In photosystem I, the reaction centre cholorophyll a has an absorption peak at

(a) 590 nm

(b) 700 nm

(c) 650 nm

(d) 680 nm

113. Which among the followings is not a bacterial disease

(a) Typhoid fever

(b) Pneumonia (d) Tuberculosis

(c) Malaria 114. Air that is left in the lung after forced expiration is

(a) Residual volume

(b) Tidal volume

(c) Vital capacity

(d) Reserve volume

115. Rods and cones are present in

(a) Iris

(b) Cornea (d) Retina

(c) Sclerotic

116. Collaterial glands of female cockroach helps in

(a) Copulation

(b) Formation of Ootheca

(c) Formation of exoskeleton (d) Fertilization

117. Aristotle's lantern is found in

(a) Star fish

(b) Brittel star

(c) Sea Cucumber

(d) Sea Urchin

118. During buccal respiration in frog

(a) Nostril remain closed and glottis remain open

(b) Nostril remain open and glottis remain closed

(c) Both nostril and glottis remain closed (d) Both nostril and glorris remain open

119. Antrum is the cavity of

(a) Blastula

(b) Carpus luteum

(c) Graafian follicle

(d) Gastrula

120. In earthworm, the typholosole is a part of which system.

(a) Circulatory

(b) Locomotion

(c) Digestive

(d) Excretory

121. Diversity of habitat in a geographical area is:

(a) Alpha

(b) Beta (d) Delta.

(c) Gamma

122. Excretory product in cockroach is:

(a) Ammonia (b) Urea

(c) Uric acid

(d) None

145. Which of the following is a human resource: (a) Time (b) Money (d) Meterial goods (c) Property 146. Height is 30-31.5 inches during (b) 18-15 months (a) 15-18 months (d) 9-12 months (c) 12-15 months 147. Induction & Deduction are the abilities called: (b) Cognitive skills (a) Moral ethics (d) Mathematical skills (c) Motor skills 148. Retinaldehde, Retinol and Retinoic acid are: (b) Various forms of Vit-E. (a) Various form of Vit-D (d) Various forms of Vit-B<sub>1</sub> (c) Various form of Vit-A 149. Strict rules and regulation the basic characteristic features and children are more discontent is: (a) Authoriarian parenting style (b) Authoritative parenting style (c) Democrative parenting style

(d) Permissive parenting style150. A summarized statement of the assets and liabilities of the family is a:

(a) Ledger (b) Account

(b) Accounts (b) Balance sheet(d) None

Answers: B.Sc.(Hons) 2015-16 -Series- B

1-d, 2-a, 3-b, 4-a, 5-c, 6-c, 7-b, 8-c, 9-d, 10-b, 11-c, 12-a, 13-b, 14-b, 15-c, 16-b, 17-d, 18-a, 19-b, 20-c, 21-c, 22-a, 23-a, 24-c, 25-c, 26-d, 27-b, 28-d, 29-d, 30-c, 31-c, 32-c, 33-b, 34-b, 35-c, 36-b, 37-c, 38-d, 39-a, 40-a, 41-c, 42-c, 43-a, 44-c, 45-d, 46-d, 47-a, 48-a, 49-c, 50-a, 51-b, 52-c, 53-b, 54-d, 55-d, 56-d, 57-b, 58-d, 59-b, 60-d, 61-a, 62-c, 63-c, 64-c, 65-b, 66-a, 67-a, 68-b, 69-a, 70-b, 71-c, 72-b, 73-b, 74-b, 75-a, 76-d, 77-a, 78-c, 79-b, 80-d, 81-b, 82-c, 83-a, 84-d, 85-a, 86-a, 87-b, 88-d, 89-a, 90-b, 91-d, 92-d, 93-a, 94-b, 95-b, 96-a, 97-a, 98-b, 99-d, 100-a, 101-a, 102-d, 103-d, 104-c, 105-b, 106-d, 107-d, 108-b, 109-c, 110-a, 111-b, 112-b, 113-c, 114-a, 115-d, 116-b, 117-d, 118-b, 119-c, 120-c, 121-c, 122-c, 123-a, 124-d, 125-a, 126-b, 127-b, 128-c, 129-c, 130-c, 131-c, 132-d, 133-d, 134-d, 135-c, 136-b, 137-b, 138-c, 139-c, 140-c, 141-b, 142-b, 143-a, 144-a, 145-a, 146-a, 147-b, 148-c, 149-a, 150-c.