Final Answer key

GUJCET-E-2014

Test Booklet No. 10425 Test Booklet Code A

This booklet contains 52 pages.

DO NOT open this Test Booklet until you are asked to do so.

Important Instructions :

1) This test consists 120 questions of Physics, Chemistry and Biology. Each question carries **1** mark. For each correct response the candidate will get **1** mark. For each incorrect response ¼ mark will be deducted. Maximum marks is **120**.
2) This Test is of **3 hours** duration.
3) Use **Black Ball Point Pen only** for writing particulars on OMR Answer Sheet and marking answers by darkening the circle '•'.
4) Rough work is to be done on the space provided for this purpose in the Test Booklet only.
5) **On completion of the test, the candidate must handover the Answer Sheet to the Invigilator in the Room / Hall. The candidates are allowed to take away this Test Booklet with them.**
6) The CODE for this Booklet is **A**. Make sure that the CODE printed on the Answer Sheet is the same as that on this booklet. In case of discrepancy, the candidate should immediately report the matter to the Invigilator for replacement of both the Test Booklet and the Answer Sheet.
7) The candidate should ensure that the Answer Sheet is not folded. Do not make any stray marks on the Answer Sheet.
8) Do not write your Seat No. anywhere else, except in the specified space in the Test Booklet / Answer Sheet.
9) Use of White fluid for correction is not permissible on the Answer Sheet.
10) Each candidate must show on demand his / her Admission Card to the Invigilator.
11) No candidate, without special permission of the Superintendent or Invigilator, should leave his / her seat.
12) Use of Manual Calculator is permissible.
13) The candidate should not leave the Examination Hall without handing over their Answer Sheet to the Invigilator on duty and must sign the Attendance Sheet (Patrak - 01). Cases where a candidate has **not** signed the Attendance Sheet (Patrak - 01) be deemed not to have handed over the Answer Sheet and dealt with as an unfair means case.
14) The candidates are governed by all Rules and Regulations of the Board with regard to their conduct in the Examination Hall. All cases of unfair means will be dealt with as per Rules and Regulations of the Board.
15) No part of the Test Booklet and Answer Sheet shall be detached under any circumstances.
16) The candidates will write the Correct Test Booklet Code as given in the Test Booklet / Answer Sheet in the Attendance Sheet. (Patrak - 01)

SEAL

Candidate's Name : .....

Exam. Seat No. (in figures) ..... (in words) .....

Name of Exam. Centre : .....Exam. Centre No.: .....

Test Booklet Code : ..... Test Booklet No. : .....

Candidate's Sign ..... *Block Supt. Sign* .....

81) Flaccid cell means _____

(A) Plasmolysed cell

(B) Cell with turgidity

(C) The cell in which water flows in and out of cell are in equilibrium

(D) The cell kept in hypotonic solution

82) Which of the option is correct for photorespiration?

(A) In Chloroplast, glycerate forms glycine

(B) In Peroxisome, glycerate forms phosphoglycolate

(C) In Mitochondrion, glycine forms serine

(D) In Bundle sheath, serine forms glycine

83) If bundlesheath cells of the C_4 plants are infected by an organism, which utilize CO_2 efficiently then which process will be affected very first?

(A) PGAL → RUBP

(B) PGAL + PGA → Glucose

(C) PGA → PGAL

(D) RUBP → PGA

(Space for Rough Work)

84) Which option is correct for the region produced from the apical octant (a) and basal octant (b), in capsella type of embryonic development

(A) a = Central region of radicle
b = Cotyledon

(B) a = Cotyledon
b = Central region of radicle

(C) a = Hypocotyl
b = Plumule of embryo

(D) a = Plumule of embryo
b = Hypocotyl

85) Which option shows incorrectly matched group?

(A) Pseudopodiospores – Plasmodium – Sporulation
(B) Gemmules – Spongilla – Budding
(C) Zoospores – Aspergillus – Sporulation
(D) Conidia – Penicillium – Asexual reproduction

86) Which option is correct for the disease caused by protozoans :

(A) Herpes simplex – itching in the genital or and area
(B) Treponema pallidium – white patches on the tongue or roof of the buccal cavity
(C) Neisseria gonorrhoeae – pain during passing urine
(D) Trichomonas vaginalis – pain during passing urine

(Space for Rough Work)

87) Which of the following option is correct for the statement 'X' and 'Y'?

Statement 'X' : Immediately after repolarization, ionic imbalance is created on both the sides of nerve fibre.

Statement 'Y' : During repolarization K^+ ion channel open up and K^+ ion moves on innerside of plasma membrane.

Options :-

(A) Statements 'X' and 'Y' are correct and 'Y' is correct for 'X'.

(B) Statements 'X' and 'Y' are correct and 'Y' is not correct for 'X'.

(C) Statement 'X' is correct and statement 'Y' is wrong.

(D) Statement 'X' is wrong and statement 'Y' is correct.

88) Which 'enzyme' initiates the digestion of proteins :-

(A) Pepsin

(B) Trypsin

(C) Aminopeptidase

(D) Carboxypeptidase

89) Volume of air inspired and expired with each normal breath is known as _____

(A) Total lung capacity

(B) Residual Volume (R.V.)

(C) Vital Capacity (V.C.)

(D) Tidal Volume (T.V.)

(Space for Rough Work)

90) Which option is correct for the formation of 'Intrinsic factor – X Activator complex for blood coagulation?

(A) Inactivated Christmas factor + AHG + phospholipid + Ca^{+2}

(B) Activated Christmas factor + AHG + phospholipid + Ca^{+2}

(C) Convertin + AHG + Ca^{+2} + FSF

(D) Phospholipid – protein complex + Proconvertin

91) Which diagram is correct for the circulation of blood through human heart?

(A) 

(B) 

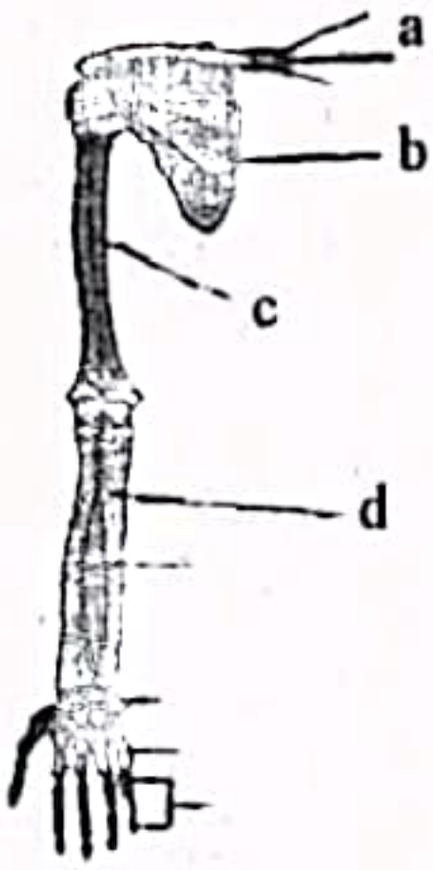
(C) 

(D) 

(Space for Rough Work)

92) Which option is correct for the region labelled as a, b, c and d in the given diagram?

Options:-



(A) a - Clavicle, b - Scapula,
c - Humerus, d - Radius

(B) a - Scapula, b - Clavicle,
c - Humerus, d - Ulna

(C) a - Clavicle, b - Ulna,
c - Radius, d - Humerus

(D) a - Clavicle, b - Glenoid cavity
c - Radius, d - Ulna

93) For the given statement 'X' and 'Y', which option is the correct option.

Statement 'X' : Red muscle are also called aerobic muscle.

Statement 'Y' : Red muscle possesses large amount of mitochondria which can utilize large amount of oxygen stored in them for ATP production.

Options :-

(A) Statement 'X' and 'Y' are correct and statement 'Y' is incorrect explanation for 'X'

(B) Statement 'X' is correct and 'Y' is incorrect

(C) Statement 'X' is incorrect and 'Y' is correct

(D) Statement 'X' and 'Y' are correct and statement 'Y' is correct explanation for 'X'

(Space for Rough Work)

94) From the following options, which is the correct one :

(A) Glucose $\xrightarrow[\beta\text{-cells}\downarrow]{\text{Glucagon}}$ Glycogen

(B) Glucose $\xrightarrow[\alpha\text{-cells}\downarrow]{\text{insulin}}$ Glycogen

(C) Glycogen $\xrightarrow[\alpha\text{-cells}\downarrow]{\text{Glucagon}}$ Glucose

(D) Glucose $\xrightarrow[\alpha\text{-cells}\downarrow]{\text{Glucagon}}$ Glycogen

95) While working in a lab, a student forgot to add colchicine while karyotyping through blood culture technique. Then what will happen :

(A) Mitosis will be arrested at metaphase

(B) Chromosomal division will continue and each chromosome will have four arms

(C) Chromosomal division will continue

(D) Mitosis will be arrested at telophase

(Space for Rough Work)

96) In Lac-Operon it mutation occurs in the middle gene of the 'structural gene' then :

(A) Permease will not be synthesized

(B) β - Galactosidase will not be synthesized

(C) Transacetylase will not be synthesized

(D) Lactose digestion will be rapid

97) Some genomic representation of skin colour are given below :

(i) AA bb CC (ii) AA bb cc

(iii) AA BB CC (iv) aa bb cc

Which of option is correct for showing the darkness of colour of the skin in decreasing order :

(A) i → iv → ii → iii (B) iii → ii → i → iv

(C) iii → i → ii → iv (D) i → iii → ii → iv

98) Select the correct option for the given statements 'X', 'Y' and 'Z'.

'X' - A transgenic cow, Rosie produced human protein-enriched milk, which was nutritionally more balanced product for human babies than natural cow milk.

'Y' - Milk produced by transgenic cow, Rosie contain 2.4 gm. protein / li.

'Z' - In the above mentioned milk in 'Y' statement, alpha - lactalbumin is present.

(A) Statement X, Y, Z are true and statement Z gives correct explanation for X

(B) Statement X, Y, Z are true and statement Z does not give correct explanation of X

(C) Statement X & Y are correct. Statement Z is wrong

(D) Statement X & Y are wrong. Statement Z is correct

(Space for Rough Work)

99) Which of the option shows following examples in ascending order in terms of BOD?

i) Distilled water

ii) Tap water

iii) Sewage wastes drained in river

(A) i – ii – iii

(B) ii – i – iii

(C) iii – i – ii

(D) iii – ii – i

100) Choose the correct option for the toxic protein produced by B. Thuringiensis :

(A) it acts in acidic medium and binds to epithelial cells of foregut.

(B) it acts in neutral medium and binds to epithelial cells of hindgut.

(C) it acts in alkaline medium and binds to epithelial cells of foregut.

(D) it acts in alkaline medium and binds to epithelial cells of midgut.

101) Non –symbiotic nitrogen fixation takes place by :

(A) Nostoc, Azotobacter, Clostridium

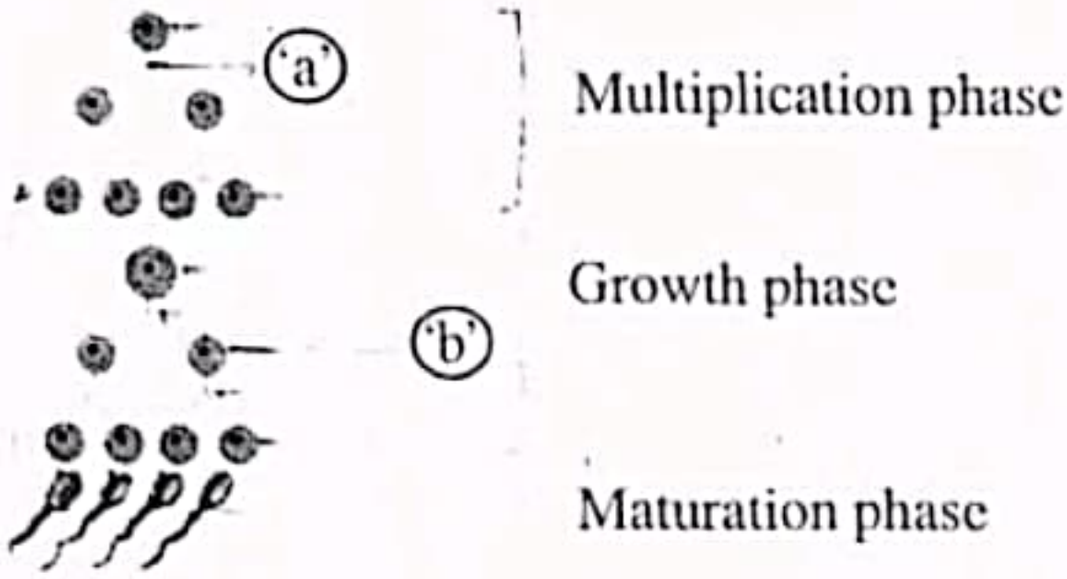
(B) Anabena, Nostoc, Rhizobium

(C) Azotobacter, Nitrosomonas, Rhizobium

(D) Anabena, Nitrosomonas, Pseudomonas

(Space for Rough Work)

102) Which option is correct for the region labelled as "a" and "b" in the given diagram?



(A) a = Mitosis b = Primary Spermatocyte

(B) a = Meiosis b = Secondary Spermatocyte

(C) a = Mitosis b = Secondary Spermatocyte

(D) a = Meiosis b = Primary Spermatocyte

103) Which option is completely correct for the given statements :

Statements :

Statement 1 : The nerve impulse ordered by respiratory centre passes through nerve to the diaphragm and the intercostal muscles and regulates respiration.

Statement 2 : Respiratory centres scatterly located in brain stem gives of rythmic stimuli to diaphragm and respiratory muscle and regulate respiration.

(A) First statement is correct and second statement is wrong

(B) First statement is wrong and second statement is correct

(C) Both of the statements are wrong

(D) Both of the statements are correct

(Space for Rough Work)

104) Which segment of renal tubule is permeable to water but nearly impermeable to salts?

(A) Proximal conkulated tubule

(B) Descending limb of Henle's loop

(C) Ascending limb of Henle's loop

(D) Distal conkulated tubule

105) Which option is correct for the correctly matched groups for the Column I, Column II and Column III.

	Column I		Column II		Column III
a)	Resting membrane potential	i)	Na^+ channel get open	e)	Na^+ and K^+ pumps are responsible for it
b)	Action potential	ii)	Na^+ channel is closed	f)	Last for very short time
c)	Depolarization	iii)	Na^+ ions are more on outer side of membrane	g)	K^+ ions move on outerside
d)	Repolarization	iv)	Na^+ ions are more on inner side of membrane	h)	Positive charge on inner side of membrane

(A) (a - ii - h) (b - i - g) (c - iii - e) (d - iv - f)

(B) (a - iii - e) (b - iv - f) (c - i - h) (d - ii - g)

(C) (a - iv - f) (b - iii - e) (c - i - e) (d - i - h)

(D) (a - iv - e) (b - iii - f) (c - ii - g) (d - i - g)

(Space for Rough Work)

106) Which option is correct for the aminoacid and the total number of their genetic code?

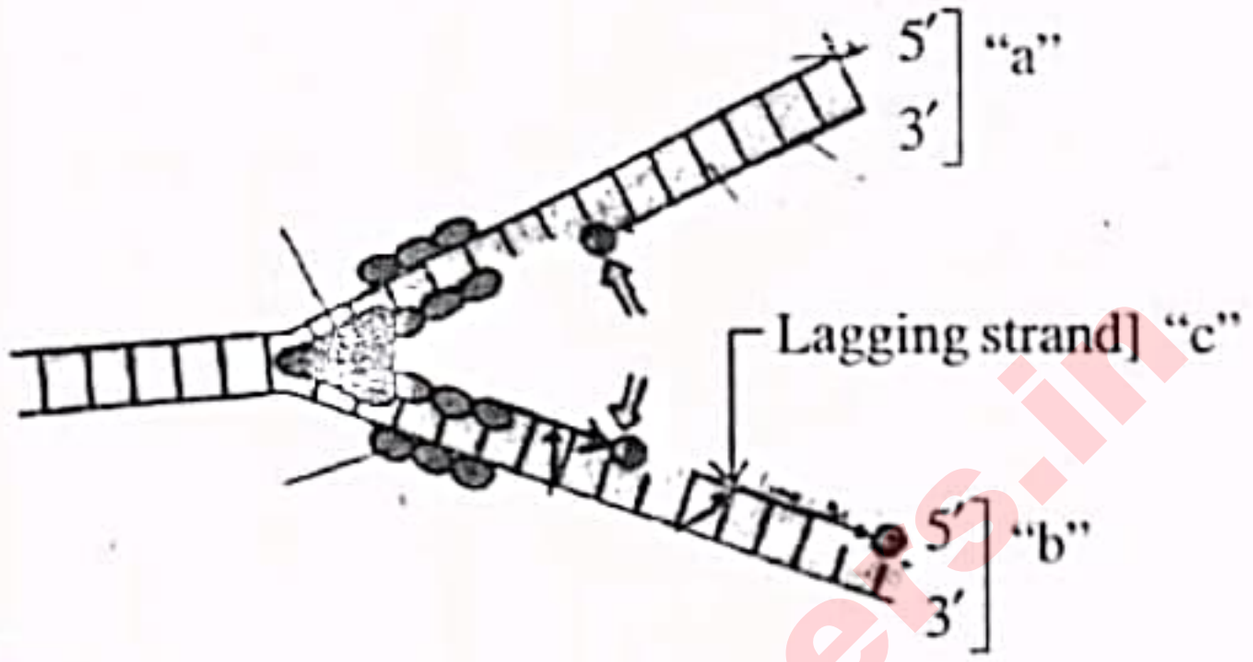
(A) Arg = 6, His = 6

(B) Val = 6, Pro = 6

(C) Pro = 4, Thr = 4

(D) Thr = 4, Arg = 4

107) Which option shows correctly labelled region in the given diagram of DNA replication?



(A) only c

(B) a, c

(C) a, b

(D) b, c

108) In population 'X' proportion of gene "M" is 60% and gene "m" is 40% then which of the following options is correct for the Heterozygous genotype in the off spring (According to Hardy - Weinberg Law)?

(A) 36%

(B) 48%

(C) 16%

(D) 20%

(Space for Rough Work)

109) Breeding ground for migratory flemingo is _____

(A) area between Khadir and Paccham islands in great Rann of Kachch

(B) area of Gulf of Kachch (Kutch)

(C) area of great Rann of Kachch (Kutch) and little Rann of Kachch (Kutch)

(D) area of Nal Sarovar Bird Sanctuary

110) "Embryo are not differentiated into different tissues at the time of fruit ripening". Select option related to this statement?

(A) Exogenous dormancy, physiological dormancy

(B) Endogenous dormancy, morphological dormancy

(C) Exogenous dormancy, morphological dormancy

(D) Endogenous dormancy, mechanical dormancy

111) In muscles from three molecules of glucose, two are completely oxidized and one is incompletely oxidized (anaerobic) then, what will be the number of total NAD+ molecules utilized?

(A) 10

(B) 20

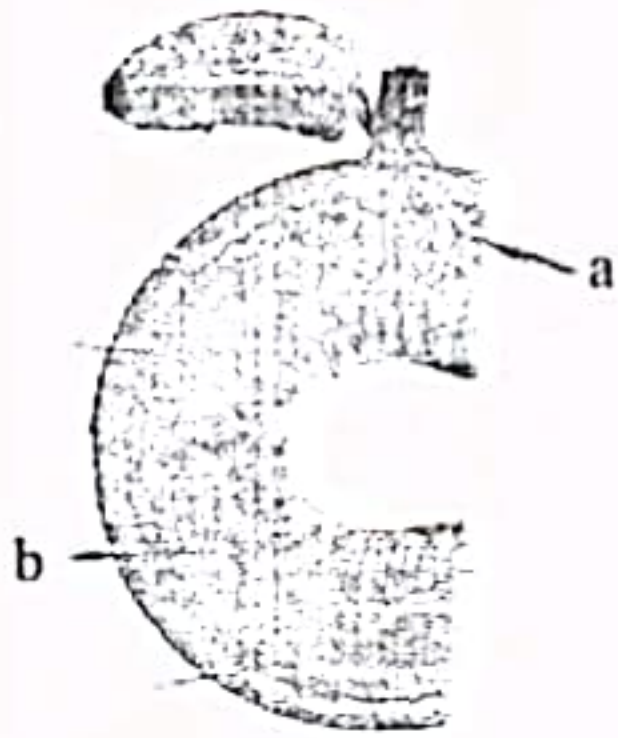
(C) 14

(D) 08

સૌથી પ્રમાણિ સાચો જવાબ

(Space for Rough Work)

112) Which option is correct for the region labelled as "a" and "b" in the given diagram of transverse section of gut?



(A) a = Nerve

b = Circular muscle

(B) a = Sub - mucosal plexus of vessels

b = Mucosal gland

(C) a = Villi

b = Mucosal gland

(D) a = Longitudinal muscle

b = Muscularis mucosa

જોંધ પ્રમાણે સાચો જવાબ

113) Which of the following statement is correct.

(A) In honey - bee, functional male does not undergo meiosis during gamate formation

(B) In flagellaria, male is heterogametic

(C) In Bonellia, a hormone - like substance secreted by the proboscis is responsible for femaleness

(D) Due to the addition of one extra 'X' chromosome in Drosophila in uninucleated state gynandromorph is observed.

(Space for Rough Work)

114) Which of the following option is correct for recombinant DNA technology?

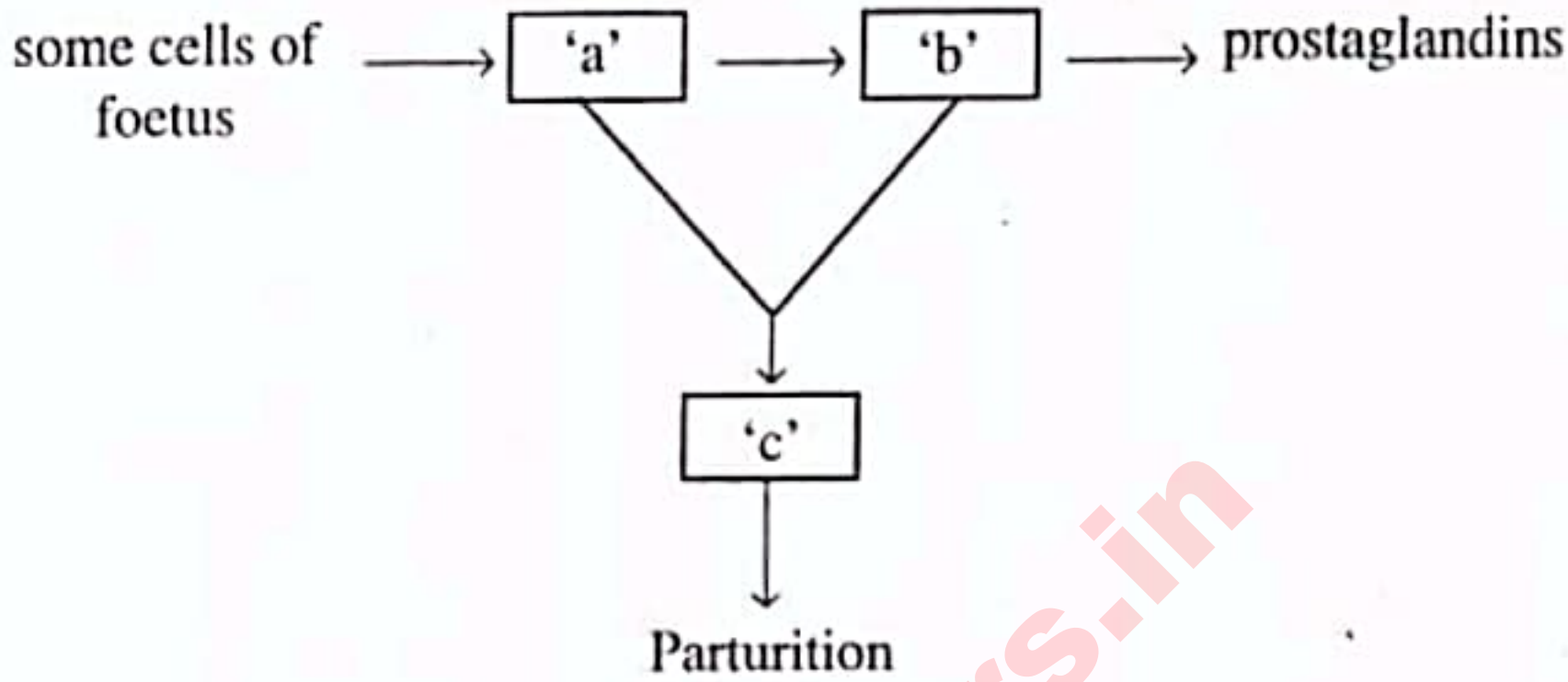
(A) Exo nuclease enzyme removes nucleotides from site within DNA

(B) Endo nuclease enzyme removes nucleotides from the ends of DNA

(C) Endo nuclease enzyme cut long polandric DNA strand

✓ (D) Exo nuclease enzyme removes nucleotides from ends of DNA

115) What does 'a', 'b' and 'c' represents in the following flow chart :



(A) a = progesterone
b = oxytocin
c = slow contraction of uterus

(B) a = oxytocin
b = uterus
c = slow contraction of uterus

(C) a = placenta
b = oxytocin
c = vigorous contraction of uterus

✓ (D) a = oxytocin
b = placenta
c = vigorous contraction in uterus

(Space for Rough Work)

116) In a healthy individual, GFR is about _____/ min, the volume of the filtrate per day is _____ li. and amount of micturition per day is _____li.

(A) 100 ml., 150 lit., 1.8 lit.

(B) 125 ml., 180 lit., 1.5 lit.

(C) 135 ml., 180 lit., 1.8 lit.

(D) 140 ml., 150 lit., 1.8 lit.

117) Pituitary gland is located in ['a'], which is a ['b'] of ['c'] bone?

(A) a = Sella turcica,
b = Raised surface
c = Ethmoid

(B) a = Reketh's pauch
b = Depression
c = Nasal

(C) a = Sella turcica
b = Depression
c = Sphenoid

(D) a = Reketh's pauch
b = Depression
c = Sphenoid

118) At a given time in a forest 900 deers are found, 100 more deers can be accommodated, then 1000 is _____.

(A) Population carrying capacity of or deer

(B) Mortality of deer

(C) Maximum natality

(D) Realised natality

(Space for Rough Work)

119) Which of the following is one of the direct causes of cancer?

(A) Obesity
(B) Inadequate O_2 supply
(C) Atherosclerosis
(D) Hypertension

120) Which of the following option is correct for the given statements, 'X', 'Y' and 'Z'?

Statements :

Statement 'X' : R.Q. of fat containing palmatic acid is less than one, whereas RQ of glucose is 1.

Statement 'Y' : Fat containing palmatic acid need less O_2 for respiration and glucose need more oxygen for respiration.

Statement 'Z' : Fat containing palmatic acid has much less oxygen in its constitution as compared to glucose.

Options :

(A) Statement 'X', 'Y' and 'Z' are correct. Statements 'Y' & 'Z' are correct explanation for 'X'

(B) Statement 'X' and 'Y' are correct and statement 'Z' is incorrect Statement 'Y' is correct explanation for 'X'.

(C) Statement 'X' and 'Z' are correct and statement 'Y' is incorrect Statement 'Z' is correct explanation for 'X'.

(D) Statement 'X' and 'Z' are incorrect and statement 'Y' is correct

(Space for Rough Work)