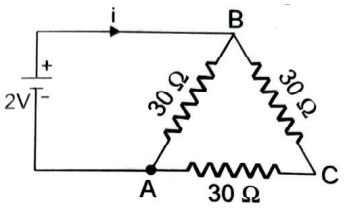
PHYSICS

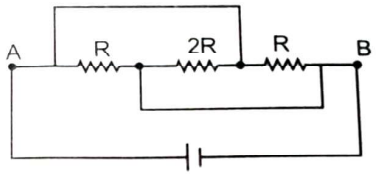
1. The current i in the circuit of figure is -



(1) $\frac{1}{45}$ amp (2) $\frac{1}{15}$ amp

(3) $\frac{1}{10}$ amp (4) $\frac{1}{5}$ amp

2. In the figure shown the current flowing through 2 R is



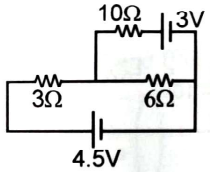
(1) from left to right

(2) from right to left

(3) no current

(4) None of these

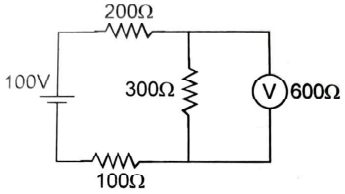
3. Find the current through the 10Ω resistor shown in figure



(1) zero (2) 1 A

(3) 2 A (4) 5 A

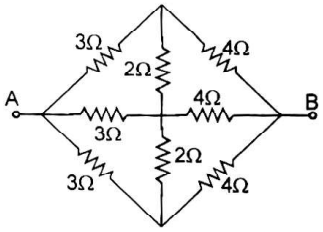
4. The reading of voltmeter is



(1) 50 V (2) 60 V

(3) 40 V (4) 80 V

5. The equivalent resistance between A and B will be (in)



(1) 2/7 (2) 8

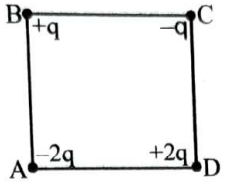
(3) 4/3 (4) 7/3

6. One quantum of charge should be a least be equal to the charge in coloumb.

(1) 1.6×10^{-17} C (2) 1.6×10^{-19} C

(3) 1.6×10^{-10} C (4) 4.8×10^{-10} C

7. Four charges are arranged at the corners of a square ABCD, as shown. The force on +ve charge kept at the centre of the square is



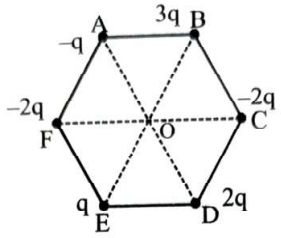
(1) zero

(2) along diagonal AC

(3) along diagonal BD

(4) prependicular to the side AB

8. Six charge are placed at the cornerof a regular hexagon as shown. If an electron is placed at its centre O, force on it will be



(1) Zero (2) Along OF

(3) Along OC (4) None of these

Rough Work

9. In a region of space , the electric field is in the x direction and is given as $\vec{E} = E_0 x\hat{i}$. Consider an imaginary cubical volume of edge a, with its edges parllel to the axes of coordinates. The charge inside this volume is

(1) zero (2) $\varepsilon_0 E_0 a^3$

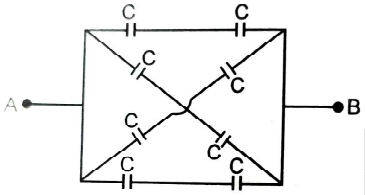
(3) $\frac{1}{\varepsilon_0} E_0 a^3$ (4) $\frac{1}{6}\varepsilon_0 E_0 a^2$

10. Electircity flux through a surface of area 100 m^2 lying in the xy plane is (in V-m) if $\vec{E} = \hat{i} + \sqrt{2}\,\hat{j} + \sqrt{3}\,\hat{k}$

(1) 100 (2) 141.4

(3) 173.2 (4) 200

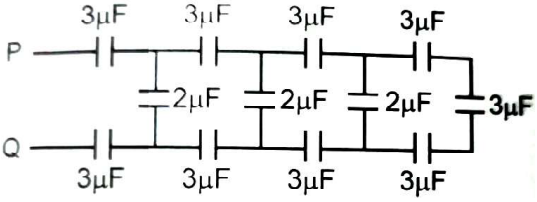
11. In the adjoining cicrcuti, the capacity between the points A and B will be-



(1) C (2) 2C

(3) 3C (4) 4C

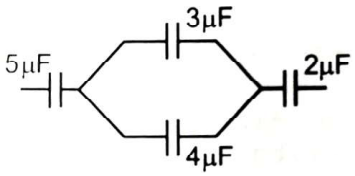
12. The effective capacity in the following figure between the point P and Q will be-



(1) $3\mu F$ (2) $5\mu F$

(3) $2\mu F$ (4) $1\mu F$

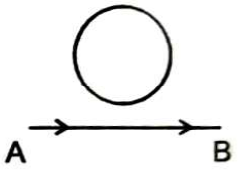
13. If charge on left plane of the $5\mu F$ capacitor in the circuit segment shown in the figure is $20\,\mu$C, the charge on the right place of $3\mu F$ capacitor is:-



(1) +8.57 μC (2) -8.57 μC

(3) +11.42 μC (4) -11.42 μC

14. In the arrangment shown in given figure current from A to B is increasing in magnitude. Induced current in the loop will



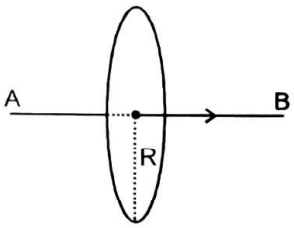
(1) have clockwise direction

(2) have anticlockwise direction

(3) be zero

(4) oscillate between clockwise and anticlockwise

15. A long conductor AB lies along the axis of a circular loop of radius R. If the current in the conductor AB varies at the rate of I ampere/ second, the the induced emp in the loop is

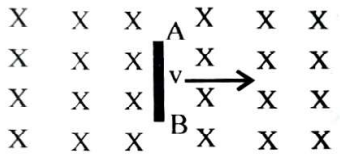


(1) $\frac{\mu_0 IR}{2}$ (2) $\frac{\mu_0 IR}{4}$

(3) $\frac{\mu_0 \pi IR}{2}$ (4) zero

Rough Work

16. A conducting rod AB moves with a uniform velocity v in a constant magnetic field as shown in fig



(1) The rod becomes hot because of Joule heating

(2) The end A become positively charged

(3) The end B become positively charged

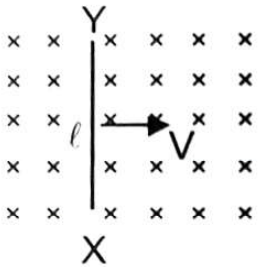
(4) The rod become electrically charged

17. A wire of length ℓ is moved with a constant velocity $\vec{v}$ in a magnetic field. A potential difference appears across the two ends

(1) if $\vec{v} \| \vec{\ell}$ (2) if $\vec{v} \| \vec{B}$

(3) if $\vec{\ell} \| \vec{B}$ (4) none of these

18. A small conducting rod of length 1, moves with a uniform velocity v in a uniform magnetic field B as shown in fig-



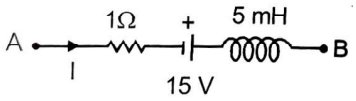
(1) Then the end X of the rod becomes positively charged

(2) the end Y of the rod becomes positively charged

(3) the entire rod is negatively charged

(4) the rod becomes hot due to joule heating.

19. The network shown in the figure is part of a complete circuit. If at a certain instant, the current I is 5A and it is decreasing at a rate of $10^3 As^{-1}$ then $V_B - V_A$ equals



(1) 20 V (2) 15 V

(3) 10 V (4) 5 V

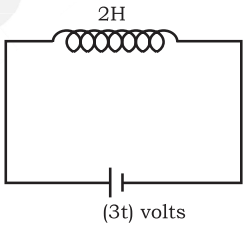
20. When current in a coil changes from 5 A to 2 A in 0.1 s, an average voltage of 50V is produced. The self-inductanceof the coil is

(1) 0.67H (2) 1.67H

(3) 3H (4) 6H

21. In the given circuit, find energy in J stored in circuit at t = 4 sec?

[A t t = 0 s, circuit si closed]



22. The magnet can be completely demagnetized by

(1) heating it slightly

(2) dropping it into ice cold water

(3) a reverse field of appropriate strength

(4) breaking the magnet into small pieces

23. Which of the following is most suitable for the core of electromagnets

(1) Soft iron (2) Steel

(3) Copper-nickel alloy (4) Air

Rough Work

24. The magnetic susceptibility is

(1) $\chi = \frac{I}{H}$ (2) $\chi = \frac{B}{H}$

(3) $\chi = \frac{M}{V}$ (4) $\chi = \frac{M}{H}$

25. A bar magnet of magnetic moment vec M is placed in a magnetic field of induction vec B The torque exerted on it is

(1) $\vec{M}.\vec{B}$ (2) $-\vec{M}.\vec{B}$

(3) $\vec{M} \times \vec{B}$ (4) $\vec{B} \times \vec{M}$

26. Weber/m² is equal to

(1) Volt (2) Henry

(3) Tesla (4) All of these

27. Magnetic dipole moment is a

(1) Scalar quantity (2) Vector quantity

(3) Constant quantity (4) None of these

28. Magnetic lines of force

(1) Always intersect

(2) Are always closed

(3) Tend to crowd far away from the poles of magnet

(4) Do not pass through vacuum

29. The magnetic field to a small magnetic dipole of magnetic moment M, at distance r from the centre on 28 the equatorial line is given by (in M.K.S. system)

(1) $\frac{\mu_0}{4\pi} \times \frac{M}{r^2}$ (2) $\frac{\mu_0}{4\pi} \times \frac{M}{r^3}$

(3) $\frac{\mu_0}{4\pi} \times \frac{2M}{r^2}$ (4) $\frac{\mu_0}{4\pi} \times \frac{2M}{r^3}$

30. A magnet of magnetic moment $50\hat{i}\ A-m^2$ is placed along the x-axis in a magnetic field $\vec{B} = \left(0.5\hat{i} + 3.0\hat{j}\right)T$. The torque acting on the magnet is :

(1) $175\ \hat{k}\ N-m$ (2) $150\ \hat{k}\ N-m$

(3) $75\ \hat{k}\ N-m$ (4) $25\sqrt{37}\ \hat{k}\ N-m$

CHEMISTRY

31. For the reaction A + B → C starting with different initial concentration of A and B, initial rate of reaction were determined graphically in four experiments.

S.N.	$[A]_0$/M (Initial conce.)	$[B]_0$/M (initial conce.)	Rate / (M sec–1)
1	1.6×10^{-3}	5×10^{-2}	10^{-3}
2	3.2×10^{-3}	5×10^{-2}	4×10^{-3}
3	$1.6–10^{-3}$	10^{-1}	2×10^{-3}
4	3.2×10^{-3}	10^{-1}	8×10^{-3}

Rate law for reaction from above data is

(1) $r = k[A]^2\ [B]^2$ (2) $r = k[A]^2[B]$

(3) $r = k[A][B]^2$ (4) $r = k[A][B]$

32. For the reaction, $2NO(g)+2H_2(g) \longrightarrow N_2(g) + 2H_2O(g)$ the rate expression can be written in the following ways:

$\{d[N_2]/dt\} = k_1[NO][H_2]; \{d[H_2O]/dt\} = k[NO][H_2];$

$\{-d[NO]/dt\} = k'_1[NO][H_2]; \{-d[H_2]/dt\} = k''_1 [NO][H_2]$

The relationship between k, k_1, k'1 and k"$_1$ is:

(1) $k = k_1 = k'_1 = k''_1$ (2) $k = 2k_1 = k'_1 = k''_1$

(3) $k = 2k'_1 = k_1 = k''_1$ (4) $k = k_1 = k'_1 = 2k''_1$

33. For the reaction $H_2 + Br_2 \rightarrow 2HBr$ overall order is found to be 3/2. The rate of reaction can be expressed as:

(1) $[H_2][Br_2]^{1/2}$ (2) $[H_2]^{(1/2)}[Br_2]$

(3) $[H_2]^{3/2}[Br_2]^0$ (4) All of these

34. The rate of production of NH_3 in $N_2 + 3H_2 \rightarrow 2NH_3$ is 3.4kg min^{-1}. The rate of consumption of H_2 is:

(1) 5.1 kg min^{-1} (2) 0.01 kg sec^{-1}

(3) 0.6 kg hr^{-1} (4) None of these

Rough Work

35. In a certain reaction, 10% of the reactant decomposes in one hour, 20% in two hours, 30% in three hours and so on the dimensions of the rate constant is :
(1) hour^{-1} (2) mole litre^{1} sec^{-1}
(3) litre mole^{-1} sec^{-1} (4) mole sec^{-1}

36. For a given reaction of first order it takes 20 min. for the conc. to drop from 1.0 M to 0.60 M. The time required for the conc. to drop from 0.60 M to 0.36 M will be :
(1) more than 20 min
(2) 20 min
(3) less than 30 min
(4) cannot tell.

37. The half - life of a radioactive isotope is three hours. If the initial mass of isotope were 256g, the mass of it remaining undecayed after 18 hours would be :
(1) 16.0 g (2) 4.0g
(3) 8.0 g (4) 12.0 g

38. Pressure over ideal binary liquid mixture containing 10 moles each of liquid A and B is gradually decreased isothermally. If $P_A^0 = 200mm$ Hg and $P_B^0 = 100mmHg$, Find the pressure at which half of the liquid is converted into vapour
(1) 150mm Hg (2) 166.5mm Hg
(3) 133mm Hg (4) 141.4mm Hg

39. A complex containing K^+,Pt(IV) and Cl^- is 100% ionised giving i = 3. Thus, complex is
(1) $K_2[PtCl_4]$ (2) $K_2[PtCl_6]$
(3) $K_3[PtCl_5]$ (4) $K[PtCl_3]$

40. Elevation of boiling point of 1 molar aqueous glucose solution(density = 1.2g/ml)is
(1) K_b (2) $1.20\,K_b$
(3) $1.02\,K_b$ (4) $0.98\,K_b$

41. The fraction of phenol dimerised in benzene if 20 g of phenol in 1 kg benzene exhibits a freezing point depression of 0.69K.(K_f benzene = $5.12\,\frac{K-kg}{mol}$),(MW phenol = 94)
(1) 0.74 (2) 0.37
(3) 0.46 (4) 0.64

42. 25 mL of an aqueous solution of KCL was found to requires 20 mL of 1M $AgNO_3$ solution when titrated using a K_2CrO_4 as indicator. Depression in freezing point of KCl solution with 100% ionization will be [$K_f = 2.0^\circ mol^{-1}$ kg and molarity = molality]
(1) 20/45 (2) 80/45
(3) 40/45 (3) 160/45

43. Elevation in the boiling point for 1 molal solution of glucose is 2 K. The depression in the freezing point for 2 molar solution of glucose in the same solvent is 2K The relation between K_b and K_f
(1) $K_b = 1.5\,K_f$ (2) $K_b = K_f$
(3) $K_b = 0.5\,K_f$ (4) $K_b = 2\,K_f$

44. In electrolysis of a fused salt, the weight deposited on an electrode will not depend on-
(1) Temperature
(2) Current intensity
(3) Electrochemical equivalent of ions
(4) Time of electrolysis

45. During electrolysis of an aqous solution of sodium sulphate if 2.4L of oxygen at STP was liberated at anode. The volume of hydrogen at STP, liberated at cathode would be :
(1) 1.2L (2) 2.4L
(3) 2.6L (4) 4.8L

Rough Work

46. A current of 2.6 ampere is passed through $CuSO_4$ solution for 6 minutes 20 seconds. The amount of Cu deposited is (At. wt. of Cu = 63.5, Faraday = 96500 C)
(1) 6.35g (2) 0.635g
(3) 0.325g (4) 3.175g

47. The quantity of electricity required to liberate 0.01g equivalent of an element at the electrode is-
(1) 9650C (2) 96500C
(3) 965C (4) 96.5C

48. Which one of the following will increase the voltage of the cell ? (T=298 K)
$Sn + 2Ag^+ \rightarrow Sn^2 + 2Ag$
(1) increase in the size of silver rod
(2) increase in the concentration of Sn^{+2}ions
(3) increase in the concentration of Ag^{+2}ions
(4) none of the above

49. If 0.224L of H_2 gas is formed at the cathode, the volume of O_2 gas formed at the anode under identical conditions, is
(1) 0.224 L (2) 0.448 L
(3) 0.112 L (4) 1.12 L

50. A conductance cell was filled with a 0.02 M KCI solution which has a specific conductance of $2.768\times10^{-3} ohm^{-1}cm^{-1}$. If resistance is 82.4 ohm at 25°C, the cell constant is-
(1) 0.2182cm^{-1} (2) 0.2281cm^{-1}
(3) 0.2821cm^{-1} (4) 0.2381cm^{-1}

51. What is the standard reduction potential (E°)for $Fe^{3+} \rightarrow Fe$? Given that :
$Fe^{2+} + 2e^- \rightarrow Fe; E^\circ_{Fe^{2+}/Fe} = -0.47V$
$Fe^{3+} + e^- \rightarrow Fe^{2+}; E^\circ_{Fe^{3+}/Fe^{2+}} = +0.77V$
(1) +0.057 V (2) +0.30 V
(3) -0.30 V (4) -0.057 V

52. When 9.65 ampere current was passed for 1.0 hour into nitrobenzene in acidic medium, the amout of p-aminophenol produced is :
(1) 10.9 g (2) 98.1 g
(3) 109.0 g (4) 9.81 g

53. Given below are two statements.
Statements I : The E° value of Ce^{4+}/Ce^{3+} is +1.74 V.
Statement II : Ce is more stable in Ce^{4+} state than Ce^{3+} state.
In the light of the above statements, choose the most appropriate answer from the options given below.
(1) Both statement I and statement II are correct.
(2) Statement I is incorrect but statement II is correct.
(3) Both statement I and statement II are incorrect
(4) Statement I is correct but statement II is incorrect.

54. Match List-I with List-II

List-I (Parameter)	**List-II** (Unit)
(a) Cell constant	(i) S cm^2mol^{-1}
(b) Molar conductivity	(ii) Dimensionless
(c) Conductivity	(iii) m^{-1}
(d) Degree of dissociation	(iv) $cm^{-1}m^{-1}$

Choose the most appropriate answer from the options given below.
(1) (a)-(iii), (b)-(i), (c)-(iv), (d)-(ii)
(2) (a)-(iii), (b)-(i), (c)-(ii), (d)-(iv)
(3) (a)-(i), (b)-(iv), (c)-(iii), (d)-(ii)
(4) (a)-(ii), (b)-(i), (c)-(iii), (d)-(iv)

Rough Work

55. **Statement-I:** Ag is a transition element.
Statement-II: Ag atom has completely filled d orbital ($4d^{10}$) in it's ground state.
In the light of the above statements, choose the most appropriate answer from the options given below.
(1) Both statement I and statement II are correct.
(2) Statement I is incorrect but statement II is correct.
(3) Both statement I and statement II are incorrect
(4) Statement I is correct but statement II is incorrect.

56. **Statement-I :** Transition elements exhibit higher enthalpies of atomisation.
Statement-II: Transition elements have stronger inter atomic interaction.
In the light of the above statements, choose the most appropriate answer from the options given below.
(1) Both statement I and statement II are correct.
(2) Statement I is incorrect but statement II is correct.
(3) Both statement I and statement II are incorrect
(4) Statement I is correct but statement II is incorrect.

57. A pink coloured salt turns blue on heating. The presence of which cation is most likely
(1) Cu^{2+} (2) Fe^{2+}
(3) Zn^{2+} (4) Co^{2+}

58. The colour of $KMnO_4$ is due to :
(1) M $\rightarrow$ L charge transfer transition
(2) d – d_4 transition
(3) L $\rightarrow$ M charge transfer transition
(4) $\sigma - \sigma$ transition

59. The pair of compounds having metals in their highest oxidation state is
(1) $[Fe(CN)_6]^{3-}$ and $[Cu(CN)_4]^{2-}$
(2) $[FeCl_4]^-$ and Co_2O_3
(3) $[NiCl_4]^{2-}$ and $[CoCl_4]^{2-}$
(4) MnO_2 and CrO_2Cl_2

60. The statement that is incorrect about the interstitial compounds is
(1) they are chemically reactive
(2) they have matallic conductivity
(3) they are very hard
(4) they have high melting point

BIOLOGY

61. Which of the following statements is correct?
(1) Sporopollenin can withstand high temperatures but not strong acids
(2) Sporopollenin can be degraded by enzymes
(3) Sporopollenin is made up of inorganic materials
(4) Sporopollenin can withstand high temperatures as well as strong acids and alkalis

62. The fusion product of polar nuclei and male gamete is-
(1) Nucellus
(2) Primary endosperm nucleus
(3) Zygote
(4) Secondary nucleus

Rough Work

63. The embryo is developed from the structure formed as a result of -
(1) Double fertilization
(2) Triple fusion
(3) Syngamy
(4) Fusion of two polar nuclei of an embryo sac

64. Which of the following statements about sporopollenin is incorrect?
(1) Exine is made up of sporopollenin.
(2) Sporopollenin is one of the resistant organic materials.
(3) Exine has apertures called germ pores where sporopollenin is present.
(4) Sporopollenin can withstand high temperatures and strong acids.

65. A dioecious flowering plant prevents both:
(1) autogamy and geitonogamy
(2) geitonogamy and xenogamy
(3) cleistogamy and xenogamy
(4) autogamy and xenogamy

66. Given below are two statements:
Statement I: Cleistogamous flowers are invariably autogamous
Statement II: Cleistogamy is disadvantageous as there is no chance for cross pollination.
In the light of the above statements, choose the correct answer from the options given below:
(1) Both Statement I and Statement II are incorrect
(2) Statement I is correct but Statement II is incorrect
(3) Statement I is incorrect but Statement II is correct
(4) Both Statement I and Statement II are correct

67. In angiosperm, the haploid, diploid and triploid structures of a fertilized embryo sac sequentially are :
(1) Antipodals. synergids, and primary endosperm nucleus
(2) Synergids. Zygote and Primary endosperm nucleus
(3) Synergids, antipodals and Polar nuclei
(4) Synergids. Primary endosperm nucleus and zygote

68. Pollen grains remain preserved as fossils due to the presence of:
(1) Epidermal layer (2) Tapetum
(3) Exine layer (4) Intine layer

69. Match the columns I and II, and choose the correct combination from the options given.

Column I (Structure)	Column II (Shape)
a. Testis	1. Spherical
b. Infundibulum	2. Oval
c. Uterus	3. Finger-like
d. Fimbriae	4. Funnel shaped
e. Clitoris	5. Inverted pear like

	a	b	c	d	e
(1)	2	5	1	3	4
(2)	1	4	5	2	3
(3)	2	4	5	3	3
(4)	1	4	5	3	3

70. Which of the following is diploid?
(1) Secondary spermatocytes
(2) Spermatozoa & ova
(3) Spermatogonia, Oogonia, Primary spermatocyte
(4) Secondary oocytes

Rough Work

71. How many sperm and ova will be formed from 50 secondary oocytes and 50 secondary spermatocytes in human :-
(1) 50 ova & 200 sperm
(2) 50 ova & 100 sperm
(3) 100 ova & 200 sperm
(4) 100 ova & 400 sperm

72. During implantation, the blastocyst becomes embedded in which layer of the uterus?
(1) Trophoblast (2) Endometrium
(3) Myometrium (4) Perimetrium

73. Pick the odd one out from each series given below and select the correct option.
(i) Scrotum, rete testis, Fallopian tube, vas deferens
(ii) Ovary, uterus, vagina, ejaculatory duct
(iii) Acrosome, Graafian follicle, corpus luteum, cervix
(iv) Prostate, testis, seminal vesicles, Cowper's gland

(i)	(ii)	(iii)	(iv)
(1) Vas deferen	Vagina	Cervix	Cowper's gland
(2) Rete testis	Ovary	Graafina follicle	Prostate
(3) Scrotum	Uterus	Corpus luteum	Seminal vesicles
(4) Fallopian tube	Ejaculatory duct	Acrosome	Testis

74. **Assertion:** The presence of hCG in woman urine is the basis for pregnancy test.
Reason: A woman passes out hCG in the urine during pregnancy.
In the light of the above statements, choose the correct answer from the options given below :
(1) Both A and R are true but R is NOT the correct explanation of A.
(2) A is true but R is false.
(3) A is false but R is true.
(4) Both A and R are true and R is the correct explanation of A.

75. Ectopic pregnancies are referred to as :
(1) Implantation of defective embryo in the uterus
(2) Pregnancies terminated due to hormonal imbalance
(3) Pregnancies with genetic abnormality
(4) Implantation of embryo at site other than uterus

76. Which of the following depicts the correct pathway of transport of sperms ?
(1) Rete testis → Vasa Efferentia ? Epididymis → Vas deferens
(2) Rete testis → Epididymis → Vasa Efferentia → Vas deferens
(3) Rete testis → Vas deferens → Vasa Efferentia → Epididymis
(4) Vasa Efferentia → Rete testis → Vas deferens → Epididymis

Rough Work

77. Which of these is not an important component of initiation of parturition in humans?
(1) Synthesis of prostaglandins
(2) Release of Oxytocin
(3) Release of Prolactin
(4) Increase in estrogen and progesterone ratio

78. Given below are two statements: one is labelled as
Assertion A and the other is labelled as Reason R
Assertion A: Endometrium is necessary for implantation of blastocyst.
Reason R: In the absence of fertilization, the corpus luteum gets degenerated that causes disintegration of endometrium.
In the light of the above statements, choose the correct answer from the options given below :
(1) Both A and R are true but R is NOT the correct explanation of A.
(2) A is true but R is false.
(3) A is false but R is true.
(4) Both A and R are true and R is the correct explanation of A.

79. Given below are two statements:
Statement I: The presence or absence of hymen is not a reliable indicator of virginity.
Statement II: The hymen is torn during the first coitus only.
In the light of the above astatements, choose the correct answer from the options given below :
(1) Statement I is false but Statement II is true
(2) Both Statement I and Statement II are true
(3) Both Statement I and Statement II are false
(4) Statement I is true but Statement II is false

80. Match List-I with List-II:

List-I	List-II
A. Parturition	I. Several antibodies for new-born babies
B. Placenta	II. Collection of ovum after ovulation
C. Colostrum	III. Foetal ejection reflex
D. Fimbriae	IV. Secretion of the hormone hCG

Choose the correct answer from the option given below:
(1) A-III, B-IV, C-I, D-II
(2) A-I, B-IV, C-II, D-III
(3) A-II, B-III, C-IV, D-I
(4) A-III, B-IV, C-II, D-I

Rough Work

81. Which of the following statement is/are correct about diaphragms, cervical caps and vaults?
A. Barrier methods of contraception
B. Cover the cervix during coitus
C. Protect the user from contracting STDs
D. They are reusable
(1) A & B only (2) A, B & C
(3) A, B & D (4) A, B, C & D

82. Saheli is the latest method of contraception introduced by CDRI, Lucknow. Which statement is correct about it?
(1) Oestrogen only pill
(2) It is a combined pill
(3) Once a month pill
(4) Non-steroidal pill.

83. Identify the correct statements about lactational amenorrhea.
I. Ovulation does not occur during the lactational period.
II. Chances of the failure of contraception are almost nil up to six months following parturition.
III. Side effects are almost nil.
IV. It is a natural method of contraception.
V. It increases phagocytosis of sperms.
(1) II, III, IV and V (2) All except V
(3) I, III, IV and V (4) All of these

84. Which one of the following is an example of Hormone releasing IUD?
(1) LNG 20 (2) Cu 7
(3) Multiload 375 (4) Cut

85. Which one of the following common sexually transmitted diseases is completely curable when detected early and treated properly?
(1) Gonorrhoea (2) Hepatitis-B
(3) HIV Infection (4) Genital herpes

86. Match List I with List II

List I	List II
A. Non-medicated IUD	I. Multiload 375
B. Copper releasing IUD	II. Progestogens
C. Hormone releasing IUD	III. Lippes loop
D. Implants	IV. LNG-20

Choose the correct answer from the option given below:
(1) A-III, B-I, C - IV, D - II
(2) A-III, B-I, C - II, D - IV
(3) A-I, B - III, C - IV, D - II
(4) A-IV, B-I, C - II, D - III

87. Match List-I with List-II relating to examples of various kind of IUDs and barrier:

List-I	List-II
A. Copper releasing IUD	I. Vaults
B. Non-medicated IUD	II. Multiload 375
C. Contraceptive barrier	III. LNG-20
D. Hormone releasing IUD	IV. Lippes loop

Choose the correct answer from the options given below:
(1) A-II, B-IV, C-III, D-I
(2) A-IV, B-III, C-I, D-II
(3) A-II, B-I, C-III, D-IV
(4) A-II, B-IV, C-I, D-III

Rough Work

88. Following is the list of STD's. Select the discases which are not completely curable.
A. Genital warts B. Genital herpes
C. Syphilis D. Hepatius-B
E. Trichomoniasis
Choose the correct answer from the options given below:
(1) A and D only (2) B and D only
(3) A and C only (4) D and E only

89. In case of inheritance of one gene, 3 : 1 phenotypic ratio can be explained on the basis of-
(1) Incomplete dominance
(2) Co-dominance
(3) Dominance
(4) Linkage

90. A cross between AaBB x aa BB yields a genotypic ratio of
(1) 1 AaBB: 1 aaBB (2) 1 AaBB: 3 aaBB
(3) 3 AaBB: 1 aaBB (4) All AaBb

91. Which is incorrect for Drosophila melanogaster?
(1) They could be grown on simple synthetic medium
(2) Single mating could produce a large number of progeny
(3) They complete their life cycle in about 7 weeks
(4) There was a clear differentiation of the sexes

92. Morgan and his group found that when genes were grouped on the same chromosome, some genes were very tightly linked and showed-
(1) Very low recombination
(2) Higher recombination
(3) No recombination
(4) 100% parental combination

93. What would be the nature of children if a colour blind woman marries a normal man?
(1) Colourblind daughter & normal sons
(2) Colourblind sons and carrier daughters
(3) Normal sons & carrier daughters
(4) Normal sons & Normal daughters

94. Mendel crossed two true breeding pea lines for contrasting pod colour. F1 progeny shows all pea plants with pod colour.
(1) Violet (2) Green
(3) White (4) Yellow

95. 'A' type of sugar polymer is expressed on the membrane of RBC if the genotype is -
(1) $i^A i^A$ or i^A i (2) i^A i^A
(3) i^A i^B (4) ii

96. If a couple has four girls, the probability of fifth child being male, is
(1) 50% (2) 25%
(3) 75% (4) 100%

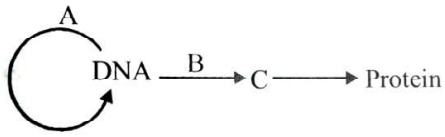
97. A colourblind man marries a daughter of colourblind father, then in the offsprings
(1) All sons are colourblind
(2) All daughters are colourblind
(3) Half sons are colourblind
(4) No daughter is colourblind

98. Consider the following statements w.r.t human genome project and select the wrong choice
(1) Scientists have identified about 1.4 million locations where SNPs occur
(2) The human genome contains 3164.7 billion nucleotide bases
(3) The total number of genes is estimated at 30,000
(4) Less than 2 percent of the genome codes for proteins

Rough Work

99. In density gradient centrifugation, the bulk DNA forms_____while satellite DNA forms____
(1) Major peak; Minor peak
(2) Minor peak; Major peak
(3) Major peak; Major peak
(4) Minor peak; Minor peak

100. Central dogma is shown. Identify A, B and C.



A	B	C
Transamination	Replication	Steroids
Transcription	Replication	DNA
Replication	Transcription	m-RNA
Transcription	Transcription	DNA

Rough Work