EAMCET-2010 MEDICAL–BOTANY

1. **Study the following lists.**

   List – I
   A) The oldest book on agriculture
   B) Micrographia
   C) Description of sexual reproduction in plants
   D) Role of chromosomes in heredity

   List – II
   I) Robert Hooke
   II) Camerarius
   III) Van Leeuwenhock
   IV) Parasara
   V) Sutton and Boveri

   The correct match is

	A	B	C	D		A	B	C	D
1)	II	IV	III	V	2)	IV	III	V	II
3)	II	III	I	V	4)	IV	I	II	V

2. **The following plants are devoid of some vital organs. Arrange these in the order of absence of root, stem, leaf, flower and fruit, respectively**

   I) Rafflesia   II) Equisetum   III) Ceratophyllum   IV) Gnetum
   V) Taeniophyllum

   The correct order is

   1) V, I, III, II, IV   2) II, IV, I, III, V   3) I, III, V, IV, II   4) III, V, I, II, IV

3. **A teacher was explaining about a plant whose venation pattern is basically similar to *Eryngium*, fruit is berry and stem shows signs of perennation. He was trying to arrive at one of the following.**

   1) Musa   2) Brinjal   3) Glory lilly   4) Mango

4. **Study the following lists.**

   List – I
   A) Cohesion among the anthers only
   B) Cohesion of staminal filaments only into bundles
   C) Adhesion of stamens to tepals
   D) Adhesion of stamens to sepals

   List – II
   I) *Citrus*
   II) *Cucurbita*
   III) *Allium*
   IV) *Grevillea*
   V) *Helianthus*

   The correct match is

	A	B	C	D		A	B	C	D
1)	V	II	IV	III	2)	IV	I	II	V
3)	V	II	IV	III	4)	V	I	III	IV

5. **From the following, identify the plants having inflorescences with male, female and sterile flowers.**

   I) *Casuarina*   II) *Vernonia*   III) *Colocasia*   IV) *Ficus*
   1) I, II   2) II, III   3) III, IV   4) I, IV

6. **Fruits which break at maturity into number of pieces equal to the number of carpels are found in**

   I) *Aristolochia*   II) *Datura*   III) *Dolichos*   IV) *Abelmoschus*
   1) I, II   2) II, III   3) I, IV   4) III, IV

7. **Assertion(A)** : In *Fritillaria*, the embryo sac is described as tetrasporic type.

   Reason(R) : In *Fritillaria*, four megaspore mother cells are involved in the formation of an embryo sac.

   1) Both A and R are true and R explains A   2) Both A and R are true and R does not explains A
   3) A is true, R is false   4) A is false, R is true

8. **The ration of components of male flower of Smilax, female flower of Ruscus, modified reproductive shoots of *Scilla* and *Tephrosia* is**

   1) 4 : 3 : 5 : 7   2) 7 : 5 : 4 : 3   3) 7 : 3 : 5 : 4   4) 4 : 7 : 5 : 4

9. **The ratio of the cohorts of the first two subclasses of Dicotyledonae in Bentham and Hooker classification is**

   1) 1 : 1   2) 2 : 3   3) 5 : 7   4) 3 : 2

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10. <u>Assertion(A)</u> : **Phylogenetic system of classification are considered as post-Darwinian.**

    <u>Reason(R)</u> : **They are proposed after the publication of the book 'Origin of Species'.**

    1) Both A and R are true and R explains A   2) Both A and R are true and R does not explains A

    3) A is true, R is false   4) A is false, R is true

11. **Identify the *true* statement in the following.**

    1) Each nucleosome consists of a core of five types of nine histone molecules

    2) Oxidation of fatty acids and synthesis of phospholipids occur in peroxisomes

    3) Telocentric chromosome contains two unequal arms

    4) Smaller sub-unit of ribosome contains the enzyme peptidyl transferase

12. **Activity of ligase enzyme is found in**

    1) Leptotene   2) Zygotene   3) Pachytene   4) Diplotene

13. **If there are 135 hydrogen bonds between two strands of a fragment of DNA double helix which contains 23 Guanine nitrogen bases, what is its total length ?**

    1) $19.04 \, A^0$ 2) $190.4 \, A^0$ 3) $1904 \, A^0$ 4) $190.4 \, nm$

14. **Which of the following statements related to plant structure are *true* ?**

    I) The cotyledons of *Mouriria* have trichosclereids

    II) Young sieve elements possess cytoplasm without nucleus

    III) Cells of pericycle in dicot root are capable of didifferentiation

    IV) Cork lacks stomata but yet performs gaseous exchange

    1) I, II   2) II, III   3) III, IV   4) II, IV

15. **Identify the plant in which the tangential walls of collocytes are excessively thickened but radial walls are thin**

    1) *Monstera*   2) *Cucurbita*   3) *Lactuca*   4) *Eupatorium*

16. **Closely and compactly arranged fundamental tissue is not found in**

    1) Prothallus of *Pteris*   2) Medulla of dicot stem

    3) Columella of *Funaria*   4) Adaxial mesophyll of *Nerium*

17. **Study the following lists.**

List – I	List – II
A) Heterophyllous plant	I) Asparagus
B) Plant without roots	II) *Wolffia*
C) Plant with largest simple leaves	III) *Sagittaria*
D) Plant with succulent roots	IV) *Tribulus*
	V) *Victoria regia*

    The correct match is

	A	B	C	D			A	B	C	D
1)	III	II	V	I		2)	III	IV	II	I
3)	I	V	III	II		4)	III	I	II	V

18. **Study the following lists.**

List – I	List – II
A) Ribbon shaped leaves	I) *Calotropis*
B) Shiny leaf surfaces	II) *Ceratophyllum*
C) Swollen and spongy petiole	III) *Potamogeton*
D) Dissected leaves	IV) *Vallisneria*
	V) *Eichhornia*

    The correct match is

	A	B	C	D			A	B	C	D
1)	III	IV	I	II		2)	IV	I	V	II
3)	V	I	II	III		4)	IV	II	V	III

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19. **Study the following lists.**

List – I	List – II
A) T.H. Morgan	I) Coined the term Genetics
B) G.J. Mendel	II) Linkage
C) Bateson	III) Checker board
D) Reginald C. Punnett	IV) Laws of Heredity
	V) Mutations

    The correct match is

	A	B	C	D		A	B	C	D
1)	III	IV	I	II	2)	II	IV	I	III
3)	I	II	V	IV	4)	IV	III	II	I

20. **Assertion(A)** : Induced mutations are widely used in crop improvement.

    Reason(R) : Physical and chemical mutagens cause genetic variability in a population and produce only desirable characters.

    1) Both A and R are true and R explains A   2) Both A and R are true and R does not explains A

    3) A is true, R is false   4) A is false, R is true

21. **How many zygospores are formed in a 100 – celled filament of *Spirogyra affinis* if all cells are involved in conjugation ?**

    1) 99   2) 50   3) 49   4) 1

22. **Identify the *correct* sequence of the stages in the life cycle of *Rhizopus* after the reduction division of zygospore**

    1) Promycelium $\rightarrow$ germ sporangium $\rightarrow$ germ spores $\rightarrow$ mycelium

    2) Promycelium $\rightarrow$ germ spores $\rightarrow$ germ sporangium $\rightarrow$ mycelium

    3) Mycelium $\rightarrow$ promycelium $\rightarrow$ germ spores $\rightarrow$ germ sporangium

    4) Promycelium $\rightarrow$ mycelium $\rightarrow$ germ sporangium $\rightarrow$ germ spores

23. **Study the following lists.**

List – I	List – II
A) Neck of archegonium in *Funaria*	I) Two nucleated
B) Neck of archegonium in *Pteris*	II) Two celled
C) Neck canal cell in *Pteris*	III) Zero
D) Neck canal cells in *Cycas*	IV) Six vertical rows of cells
	V) Four vertical rows of cells

    The correct match is

	A	B	C	D		A	B	C	D
1)	III	IV	II	V	2)	IV	V	I	III
3)	III	IV	II	I	4)	IV	III	V	I

24. **False statement related to *Cycas* is**

    1) Motile male gametes and pollen tube are involved in fertilization

    2) Endosperm formation occurs before fertilization

    3) Ovule contains pollen chamber

    4) Gametophytic tissue is not found in seeds

25. **Study the following combinations and identify *correct* matches.**

    I) Bacillus vulgaris – Saprophyte – Mineralization

    II) Erwinia amylovora – Saprophyte – Biopesticide

    III) Agrobacterium tumefaciens – Saprophyte – Genetic Engineering

    IV) Edellovibrio bacteriovorus – Parasite – Water purification

    1) I, II   2) II, III   3) I, IV   4) II, IV

26. **The disease caused by the virus having double stranded nucleic acid with ribose sugar as genetic material is**

    1) Tobacco mosaic disease   2) Cauliflower mosaic disease

    3) Dahlia mosaic disease   4) Rice stunting disease

27. Study the following table and identify the *correct* sequence of cells which shows the path of water movement between them

Cell	Osmotic Potential (MPa)	Pressure Potential (MPa)
A	–0.95	0.40
B	–0.75	0.40
C	–0.85	0.25
D	–0.65	0.25

1) $D \rightarrow B \rightarrow C \rightarrow A$ 2) $B \rightarrow C \rightarrow D \rightarrow A$ 3) $C \rightarrow B \rightarrow A \rightarrow D$ 4) $B \rightarrow D \rightarrow A \rightarrow C$

28. The right sequence of carriers which involve in the transport of excess Na^+ ions out of the cell in salt resistant plants is

1) Uniporter, Symporter 2) Symporter, Antiporter 3) Antiporter, Uniporter 4) Uniporter, Antiporter

29. Study the following.

List – I

A) Sulphur
B) Molybdenum
C) Copper
D) Manganese

List – II

I) Cytochrome – C – Oxidase
II) IAA synthesis
III) Biotin
IV) Dinitrogenase
V) Oxygen evolving complex

The correct match is

	A	B	C	D			A	B	C	D
1)	III	IV	II	I		2)	IV	III	I	II
3)	III	IV	I	V		4)	IV	I	II	V

30. The carbon ratio of lutein, abscisic acid and GA_{27} is

1) 6 : 3 : 4 2) 5 : 3 : 4 3) 8 : 3 : 4 4) 4 : 3 : 5

31. Arrange the following respiratory substrates in decreasing order of CO_2 molecules released when one molecule of each of them is oxidized

I) Tripalmitin II) Oleic acid III) Triolein IV) Malic acid

1) I, II, IV, III 2) III, IV, II, I 3) III, I, II, IV 4) III, II, IV, I

32. Assertion(A) : The energy requirement for the formation of one hexose molecule is more in *Chlorella* than in Sugarcane.

Reason(R) : The formation of phosphoenol pyruvic acid from pyruvic acid requires two ATP molecules.

1) Both A and R are true and R explains A 2) Both A and R are true and R does not explains A

3) A is true, R is false 4) A is false, R is true

33. Eight molecules of an enzyme solution is mixed with 1000 molecules of the substrate in a reaction mixture. If it converts 80% of the substrate into product in five minutes, then its turnover number is

1) 10 2) 15 3) 20 4) 60

34. Study the following lists.

List – I

A) Oxidative decarboxylation
B) Competitive inhibition
C) Metal ion as co-factor
D) Organic molecule as co-factor

List – II

I) Carbonic anhydrase
II) Malic enzyme
III) Pepsin
IV) Peroxidase
V) Succinic dehydrogenase

The correct match is

	A	B	C	D			A	B	C	D
1)	II	I	V	IV		2)	V	II	III	I
3)	II	V	I	IV		4)	V	I	II	IV

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35. Which if the following statements related to protein synthesis are *true* ?

    I) Transcribed *hn*–RNA and *m*–RNA of gene are similar in size

    II) The 3' CCA end of *t*–RNA acts as amino acid binding site

    III) *f*–met–*t*–RNA binds on to the 'P' site in ribosome

    IV) The protein factor called RF_3 helps in recognizing the termination codon

    1) I, III   2) II, III   3) II, IV   4) I, IV

36. If 'X' molecules of ATP are utilized to produce one molecule of glucose during photosynthesis of a C_3 plant and 'Y' molecules of ATP are formed through substrate level phosphorylation during the breakdown of one molecule of glucose in aerobic respiration, then the ratio of 'X' and 'Y' is

    1) 3 : 1   2) 5 : 2   3) 1 : 1   4) 2 : 3

37. Study the following lists.

List – I	List – II
A) Mass selection	I) Co–10 rice variety
B) Pure line selection	II) Kufri red potato variety
C) Spontaneous mutation	III) Dharwar American cotton variety
D) Clonal selection	IV) Basmati rice variety
	V) GEB–24 rice variety

    The correct match is

	A	B	C	D			A	B	C	D
1)	III	I	V	II		2)	III	V	I	II
3)	II	IV	III	V		4)	IV	I	III	II

38. Identify the *correct* combination of the following related to recombinant DNA technology

    1) Ti plasmid – Artificially synthesized plasmid

    2) DNA probe – Radioactively labelled double stranded DNA

    3) Sticky ends of DNA – Facilitate the action of DNA Ligase

    4) Colony hybridization – Identification of antibiotic resistant gene

39. Study the following lists.

List – I	List – II
A) B–vitamins rich SCP	I) *Dunaliella salina*
B) Fox fire	II) *Amanita muscaria*
C) Methionine deficient SCP	III) *Candida lipolytica*
D) Lysine rich SCP	IV) *Armillariella mellea*
	V) *Methylophilus methylotrophus*

    The correct match is

	A	B	C	D			A	B	C	D
1)	III	IV	I	V		2)	III	II	I	IV
3)	III	V	I	IV		4)	I	IV	II	III

40. From the following, identify DNA fragment showing palindromic sequence.

    1) 5' A C T C T G 3' / 3' T G A G A C 5'
    2) 5' A A C C A G 3' / 3' T T G G A T 5'
    3) 5' T T G A G T 3' / 3' A A C T C A 5'
    4) 5' G T G C A G 3' / 3' C A C G T C 5'

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1) 4	2) 4	3) 1	4) 4	5) 3	6) 3	7) 3	8) 1	9) 4	10) 1
11) 2	12) 3	13) 2	14) 3	15) 4	16) 2	17) 1	18) 2	19) 2	20) 3
21) 2	22) 1	23) 2	24) 4	25) 3	26) 4	27) 4	28) 4	29) 3	30) 3
31) 3	32) 4	33) 3	34) 3	35) 2	36) 1	37) 1	38) 3	39) 1	40) 4

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41. Statement (S) : Populations of a species inhabiting different geographical areas are in a continuous process of adaptation to their surrounding environments and this leads to the evolution of new species.

    Reason (R) : Geographical barriers obstruct interbreeding of populations of a species leading to reproductive isolation and evolution of new species.

    1) Both (S) and (R) are not true
    2) Only (S) is true but not (R)
    3) Both (S) and (R) are true but (R) does not explain (S)
    4) Both (S) and (R) are true and (R) is correct explanation to (S)

42. Which of the following statements are correct with regard to Deuterostomes?

    (a) The blastopore develops into anus in adult
    (b) The blastopore develops into mouth in adult
    (c) Cleavage is radial and indeterminate
    (d) Cleavage is spiral and determinate

    1) (a) and (c)
    2) (a) and (b)
    3) (b) and (d)
    4) (b) and (c)

43. Choose the animal which exhibits the following characteristics:

    (a) Marine habitat
    (b) Bilateral symmetry with cephalization
    (c) Haemocoel as principak body cavity
    (d) Eyes similar to that of vertebrates

    1) Jelly fish
    2) Cuttle fish
    3) Silver fish
    4) Dog fish

44. Which of the following is the correct swquence of cell cycle?

    The correct answer is:

    1) $G_1 \rightarrow G_2 \rightarrow S \rightarrow M$
    2) $S \rightarrow M \rightarrow G_2 \rightarrow G_1$
    3) $G_1 \rightarrow S \rightarrow G_2 \rightarrow M$
    4) $M \rightarrow S \rightarrow G_2 \rightarrow G_1$

45. Match the types of animal tissues given under List I with the parts/organs in which they occur, given under List II:

List I (Tissue)	List II (Part/Organ)
(A) Squamous epithelium	(I) Walls of nose
(B) Hyaline cartilage	(II) Bowman's capsule
(C) Adipose tissue	(III) Iris
(D) Smooth muscle	(IV) Yellow bone marrow
	(V) Ear pinna

    The Correct match is:

	A	B	C	D		A	B	C	D
1)	V	I	IV	II	2)	V	IV	I	III
3)	II	I	IV	III	4)	II	IV	I	III

46.   The plane that divides the body into right and left halves:

(1) Transverse   (2) Frontal   (3) Sagittal   (4) Radial

47.   Match the following:

List I

(A) Reticulopodia

(B) Lobopodia

(C) Filopodia

(D) Axopodia

List II

(I) Lecithium

(II) Collozoum

(III) Globigerina

(IV) Ceratium

(V) Entamoeba

The correct match is:

	A	**B**	**C**	**D**		**A**	**B**	**C**	**D**
1)	III	IV	II	I	2)	III	V	I	II
3)	IV	V	I	III	4)	II	III	I	IV

48.   The fusion of pronuclei of dissimilar gremetes is called:

1) Syngamy   2) Neoplasia   3) Isogamy   4) Hologamy

49.   The process by which a new structure is formed in the tissue of the host during parasitic infection:

1) Hyperplasia   2) Neoplasia   3) Hypertrophy   4) Gigantism

50.   Match the following:

Parasite	**Infective Stage**	**Disease Caused**
(A) Plasmodium vivax	(I) 3rd stage larva	(a) Filariasis
(B) Taenia solium	(II) Cystic stage	(b) Benign tertain malaria
(C) Entamoeba histolytica	(III) Sporozoite	(c) Amoebic dysentery
(D) Wuchereria bancrofti	(IV) Cysticercus	(d) Taeniasis

The correct match is:

(1)   A(III) (b)   B(IV) (d)   C(II) (c)   D(I) (a)

(2)   A(III) (b)   B(IV) (d)   C(I) (c)   D(II) (a)

(3)   A(IV) (a)   B(II) (d)   C(I) (b)   D(III) (c)

(4)   A(III) (b)   B(IV) (d)   C(I) (a)   D(II) (c)

51.   In pheretima, septa are absent between some of the segments. They re:

The correct answer is:

1) $\dfrac{1}{2}, \dfrac{2}{3}, \dfrac{9}{10}, \dfrac{10}{11}$ 2) $\dfrac{1}{2}, \dfrac{2}{3}, \dfrac{3}{4}, \dfrac{9}{10}$ 3) $\dfrac{4}{5}, \dfrac{9}{10}, \dfrac{10}{11}, \dfrac{14}{15}$ 4) $\dfrac{1}{2}, \dfrac{2}{3}, \dfrac{8}{9}, \dfrac{10}{11}$

52.   In pheretima, the open type of nephridia are located in these segments:

1) 4th, 5th and 6th   2) 2nd to the last   3) 16th to the last   4) 7th, 9th and 13th

53. The cells, present in the fat bodies of cockroach, which contain symbiotic bacteria that synthesize amino acids are:

    1) Trophocytes   2) Mycetocytes   3) Oenocytes   4) Urate cells

54. In cockroach, the thermoreceptor sensilla are present on:

    1) Antenna, maxillary and labial palps   2) Labrum, maxillary and labial palps

    3) First, second and third trasomeres of tarsus   4) Anal cerci and pedicel of antennae

55. **Statement (S) :** Biting and chewing mouth parts are the most primitive type of mouth parts in insects.

    Reason (R) : Holometabolus insects have biting and chewing type of mouth parts in their larvae.

    (1) Both (S) and (R) are correct and (R) is he correct explanation of (S)

    (2) Both (S) and (R) are correct and (R) is not the correct explanation of (S)

    (3) (S) is correct but (R) is wrong   (4) (S) is wrong but (R) is correct.

56. Which one of the following arthropods is viviparous?

    1) Palaemon   2) Palamnaeus   3) Pediculus   4) Periplaneta

57. Shannon's index (H) represents:

    1) The relation between two randomly selected individuals of the same species in a habitat

    2) Relaive abundance of each species

    3) The probability that two randomly selected individuals in he habitat belong to the same species

    4) Number of genes of a specific trait that exist within a population

58. The scientific name of Kashmiri stag is:

    1) Sus salvanius   2) Grus leucogeranus

    3) Cervus elephus hanglu   4) Ailurus ochraceus

59. Select the animal from the examples given below which exhibits neoeny in its larval stage:

    1) Amphiuma   2) Typhlonectes   3) Ambystoma   4) Necturus

60. Ductus Botalli connects:

    1) Two systemic arches   2) Pulmonary and systemic arches

    3) Systemic and carotid arteries   4) Carotid and pulmonary arteries

61. Which of he following exhibit discontinuous distribution?

    1) Ratitae and Osteichthyes   2) Metatheria and Carinatae

    3) Dipnoi and Ratitage   4) Prototheria and Urodela

62. The animal with epipubic bones and a chorioallontoic placenta is :

    1) Opossum rat   2) Koala bear   3) Marsupial bandicoot   4) Opossum

63. Arrage the correct sequence of enzymes which act on food in different regions of alimentary canal:

    (a) Pepsin   (b) Ptyalin   (c) Dipeptidase   (d) Carboxypeptidase

    The correct answer is:

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

64. Number of oxygen mplecules bound in a saturated haemoglobin molecule:

    1) One   2) Two   3) Three   4) Four

65. Mitral valve is:

    1) Right atrio-ventricular valve   2) Left atrio-ventricular valve

    3) Eustachian valve   4) Spiral valve

66. Which of the following is an autoimmune disorder?

    1) Hypothyroidism   2) Acromegaly   3) Gigantism   4) Grave's disease

67. Which one of the following statements is not true with referene to the genes of eukaryotic animals?

1) RNA polymerase allows the transcripotion of structural genes to synthesize a polycisdtronic m-RNA

2) Many genes have stretches of nitrogen bases that code for amino acids and are called 'exons'

3) Heterogenous nuclear RNA (hn RNA) is synthesized from split genes

4) The bases that do not code for amino acids are called 'introns'

68. Match vertebral number and the corresponding region in rabbit:

List I	List II
(A) Cervical	(I) 16
(B) Thoracic	(II) 7
(C) Caudal	(III) 3 or 4
(D) Sacral	(IV) 12 or 13

The correct math is:

	A	**B**	**C**	**D**		**A**	**B**	**C**	**D**
1)	IV	III	II	I	2)	II	IV	I	III
3)	I	II	III	IV	4)	III	I	IV	II

69. Which event of the 'action potential' is indicated by the letter (A) in the diagram?

1) Influx of K^+

2) Efflux of Na^+

3) Influx of Na^+

4) Efflux of K^+
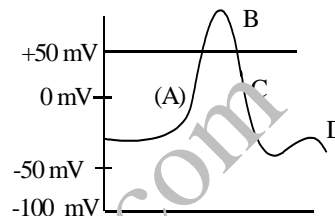
70. Identify the 'place of hydrolysis of ATP' and the 'power stroke' in muscle contraction, in the picture given below:
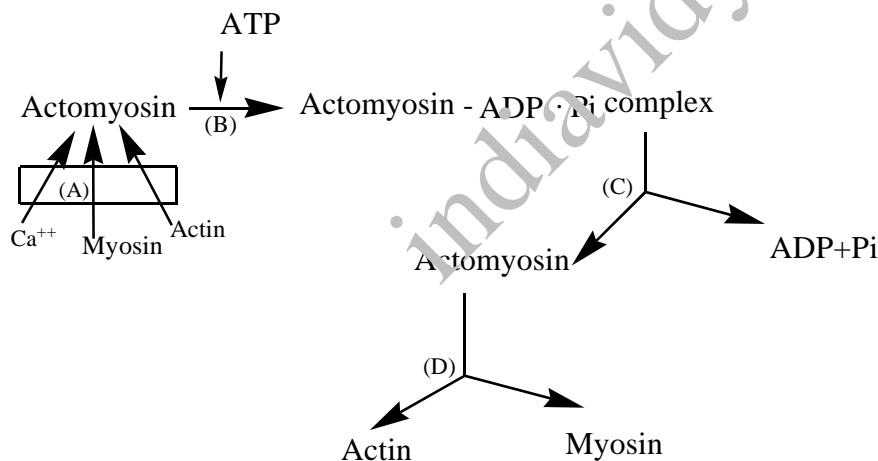
The correct answer is:

1) (A) and (D)   2) (B) and (C)   3) (C) and (D)   4) (A) and (B)

71. The inability to regulate the concentration of sodium ions in the blood could be due to the improper functioning of one of the following

1) Adenohypophysis : It produces ACTH

2) Adrenal cortex : It produces epinephrine

3) Adrenal medulla : It produces epinephrine

4) Pars nervosa : It produces ADH

72. The Macrophages present in the liver are called

1) Microglial cells   2) Histiocytes   3) Lymphocytes   4) Kupffer cells

73. A mother with blood group 'B' type has a child with blood group type 'O'. What is the possibility of the genotypes of that mother and father ?

1) $I^A I^A$ (father) and $I^B I^O$ (mother)   2) IAIB (father) and IBIB (mother)

3) $I^A I^O$ (father) and $I^B I^O$ (mother)   4) $I^B I^O$ (father) and $I^A I^O$ (mother)

74. Drumstick Barr bodies are found in

1) All RBC of females   2) All RBC of males

3) Some neutrophils of females   4) Some neutrophils of males

75. Match the following in Drosophila with reference to sex determination

List I

(Ratio of X Chromosomes to Autosomes) X/A

List II

(Sex)

A) 0.5   1) Metafemale

B) 1.0   2) Metamale

C) 1.5   3) Male

D) 0.33   4) Intersex

E) 0.67   5) Female

	A	**B**	**C**	**D**	**E**			**A**	**B**	**C**	**D**	**E**
1)	3	1	2	4	5		2)	3	5	1	2	4
3)	1	4	2	5	3		4)	2	3	1	4	5

76. Statement (S) : The concept of survival of the fittest is central to natural selection

Reason (R) : Individuals who possess advantageous characters to adapt to the environment have better potential for survival

1) Only (S) is true but not (R)

2) Both (S) and (R) are true but (R) is not the correct explanation to (S)

3) Both (S) and (R) are true and (R) is the correct explanation to (S)

4) Both (S) and (R) are not true

77. Find the frequency of heterozygotes in a population which exhibits the Hardy - Weinberg equilibrium, if the frequencies of the two alleles in the population are 0.6 and 0.4

1) 0.80   2) 0.64   3) 0.48   4) 0.32

78. Haemopoietic stem cells are

1) Totipotent cells   2) Pleuripotent and multipotent cells

3) Unipotent cells   4) Differentiated cells

79. The application of Polymerase Chain Reaction is:

   1) to demonstrate DNA as genetic material

   2) to replicate specific DNA sequences at high temperatures

   3) to determine minerals in biological tissue

   4) to replicate RNA sequences at low temperatures

80. Match the following:

List I	**List II**
(Common Name)	**(Scientific Name)**
I) Cat fish	A) Clarias batrachus
II) Milk fish	B) Chanos chanos
III) White shrimp	C) Heteropneustes fossilis
IV) Grey mullet	D) Mugil cephalus
	E) Penaeus monodon
	F) Penaeus indicus

The correct match is

	I	**II**	**III**	**IV**			**I**	**II**	**III**	**IV**
1)	A	C	E	D		2)	B	D	E	A
3)	A	B	F	D		4)	B	D	F	A

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41) **4**	42) **1**	43) **2**	44) **3**	45) **3**	46) **3**	47) **2**	48) **2**	49) **2**	50) **1**
51) **2**	52) **3**	53) **2**	54) **3**	55) **1**	56) **2**	57) **2**	58) **3**	59) **3**	60) **2**
61) **3**	62) **3**	63) **2**	64) **4**	65) **2**	66) **4**	67) **1**	68) **2**	69) **3**	70) **2**
71) **2**	72) **4**	73) **3**	74) **3**	75) **2**	76) **3**	77) **3**	78) **2**	79) **2**	80) **3**

EAMCET-2010 MEDICAL–PHYSICS

81. A body weighs 22.42 gm and has a measured volume of 4.7 cc. The possible error in the measurement of mass and volume are 0.01 gm and 0.1 cc. Then the maximum error percentage in the density will be

   1) 22%   2) 2.2%   3) 0.22%   4) 0.022%

82. A man moves 20 m North, then 10 m east and then $10\sqrt{2}$ m South–West, his displacement is

   1) 20 m North   2) $10\sqrt{2}$ m North–West   3) $10\sqrt{2}$ m South–East   4) 10 m North

83. An electron moving at a speed of 5 x 10^6 ms^{-1} is shot through a sheet of paper which is 2.1 x 10^{-4} cm thick. The electron emerges from the paper with speed of 2 x 10^6 ms^{-1}. The time taken by the electron in seconds to pass through the paper sheet is

   1) 5 x 10^{-12} 2) 6 x 10^{-13} 3) 3 x 10^{-12} 4) 5 x 10^{-13}

84. Match conservation laws in List–I with the processes in List–II.

   List – I
   A) Linear momentum
   B) Angular momentum
   C) Kinetic energy
   D) Total energy

   List – II
   I) Elastic collision
   II) Inelastic collision
   III) No external force
   IV) No external torque
   V) All physical processes

   The correct match is

	A	B	C	D		A	B	C	D
1)	III	IV	I	V	2)	IV	III	I	V
3)	V	IV	II	I	4)	V	III	IV	I

85. The kinetic energy K of a particle of mass 'm' moving along a circle of radius 'R' depends on distance covered 'S' as $K = AS^2$. Then the acceleration of particle is given by

   1) $\dfrac{2AS}{m}\left(1+\dfrac{S^2}{R^2}\right)^{1/2}$ 2) $\dfrac{2AS}{m}\left(1-\dfrac{S^2}{R^2}\right)^{1/2}$ 3) $\dfrac{2AS^2}{mR}$ 4) $\dfrac{2AS}{m}$

86. A sphere of mass m moving with constant velocity hits another stationary sphere of the same mass. If 'e' is the coefficient of restitution, then the ratio of velocities of the two spheres after the collision will be

   1) $\dfrac{1}{e}$ 2) $\dfrac{1-e}{1+e}$ 3) $\dfrac{e}{1+e}$ 4) $\dfrac{e+1}{e}$

87. Two particles A and B initially at rest move towards each other under a mutual force of attraction. At the instant when the velocity of A is V and that of B is 2V, velocity of centre of mass of the syste is

   1) Zero   2) V   3) 2V   4) 3V

88. A car is travelling along a curved road of radius r. If the coefficient of friction between the tyres and the road is μ, the car will skid if its speed exceeds

   1) $2\sqrt{\mu rg}$ 2) $\sqrt{3\mu rg}$ 3) $\sqrt{2\mu rg}$ 4) $\sqrt{\mu rg}$

89. PQR is a right angled triangular plate of uniform thickness as shown in the figure. If I_1, I_2 and I_3 are moments of inertia about PQ, QR and PR axes respectively, then

1) $I_3 < I_2 < I_1$

2) $I_1 = I_2 = I_3$

3) $I_2 > I_1 > I_3$

4) $I_3 > I_1 > I_2$
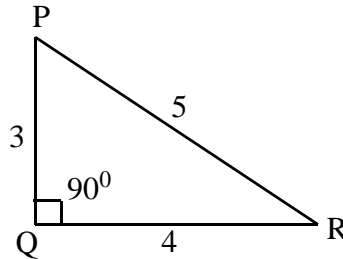
90. The radius of gyration of a solid sphere of radius R about a certain axis is also equal to R. If r is the distance between the axis and the centre of the sphere, then r is equal to

1) R   2) 0.5 R   3) $\sqrt{0.6}\,R$ 4) Zero

91. The period of revolution of Jupiter around the sun is 12 times the period of revolution of the earth around the sun. The distance between the Jupiter and sun is n times the distance between the earth and sun. Then the value n is

1) $(144)^{3/2}$ 2) $(144)^{2/3}$ 3) $\sqrt[3]{144}$ 4) $\sqrt[4]{144}$

92. A mass M is suspended from a light spring. An additional mass m is added, displaces the spring further by a distance 'x'. Now the combined mass will oscillate with a period.

1) $T = 2\pi\sqrt{\dfrac{mg}{x(M+m)}}$ 2) $T = 2\pi\sqrt{\dfrac{(M+m)x}{mg}}$ 3) $T = \dfrac{2\pi}{3}\sqrt{\dfrac{mg}{(M+m)x}}$ 4) $T = 2\pi\sqrt{\dfrac{(M+m)}{mgx}}$

93. A 4.0 m long copper wire of cross–sectional area 1.2 cm² is stretched by a force of 4.8 x 10³ N. If Young's modulus for copper is Y = 1.2 x 10¹¹ N/m², the increase in length of wire and strain energy stored per unit volume are

1) 1.32 x 10⁻⁴ m, 66 x 10³ J   2) 132 x 10⁻⁴ m, 6.6 x 10² J

3) 13.2 x 10⁻⁴ m, 6.6 x 10³ J   4) 0.132 x 10⁻⁴ m, 66 x 10⁴ J

94. A spherical liquid drop of diameter D breaks up to n identical spherical drops. If the surface tension of the liquid is 'σ', the change in energy in this process is

1) $\pi\sigma D^2\left(n^{1/3}-1\right)$ 2) $\pi\sigma D^2\left(n^{2/3}-1\right)$ 3) $\pi\sigma D^2\left(n-1\right)$ 4) $\pi\sigma D^2\left(n^{4/3}-1\right)$

95. A tank of height 5 m is full of water. There is a hole of cross–sectional area 1 cm² in its bottom. The volume of water that will come out from this hole per second is (g = 10 m/s²)

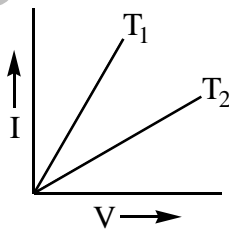1) 10⁻³ m³/s   2) 10⁻⁴ m³/s   3) 10 m³/s   4) 10⁻² m³/s

96. An ideal gas is initially at temperature T and volume V. Its volume is increased by ΔV due to an increase in temperature ΔT, pressure remaining constant. The physical quantity $\delta = \dfrac{\Delta V}{V\Delta T}$ varies with temperature as

97. The pressure P for a gas is plotted against its absolute temperature T for two different volumes V_1 and V_2 where $V_1 > V_2$ where $V_1 > V_2$. If P is plotted on y–axis and T on x–axis, then

    1) The curve for V_1 has greater slope than that for V_2

    2) The curve for V_2 has greater slope than that for V_1

    3) Both curves have same slope

    4) The curves intersect at some point other than $T = 0$

98. One mole of an ideal gas $(\gamma = 1.4)$ is adiabatically compressed so that its temperature rises from $27^0 C$ to $35^0 C$. The change in the internal energy of the gas is (R = 8.3 J.mol^{-1} K^{-1})

    1) – 266 J   2) 166 J   3) – 268 J   4) 168 J

99. A lead bullet of unknown mass is fired with a speed of 180 ms^{-1} into a tree in which it stops. Assuming that in this process two third of heat produced goes into the bullet and one third into wood. The temperature of the bullet raises (Specific heat of lead = 0.120 Jg^{-1} $^0 C^{-1}$)

    1)   2)   3) $90^0 C$ 4) $100^0 C$

100. A cylinder of radius 'R' made of material of coefficient of thermal conductivity 'k_1' is surrounded by a cylindrical shell of inner radius 'R' and outer radius 2R made of a material of coefficient of thermal conductivity 'k_2'. The two ends of the combined system are maintained at two different temperatures. There is no loss of heat across the cylindrical surface and the system is in the steady state. The effective coefficient of thermal conductivity of the system is

    1) $k_1 + k_2$ 2) $\dfrac{k_1 + 3k_2}{4}$ 3) $\dfrac{3k_1 + k_2}{4}$ 4) $\dfrac{k_1 k_2}{k_1 + k_2}$

101. A source of sound producing wavelength of 50 cm is moving away from stationary observer with 1/5th speed of sound. Then, what is the wavelength of sound heard by observer ?

    1) 70 cm   2) 55 cm   3) 40 cm   4) 60 cm

102. A sound wave travels with a velocity of 300 ms^{-1} through a gas. 9 beats are produced in 3 sec when two waves pass through it simultaneously. If one of the waves has 2m wavelength, the wavelength of the other wave is

    1) 1.98 m   2) 2.04 m   3) 2.00 m   4) 1.99 m

103. A ray of light travels from an optically denser medium towards rarer medium. The critical angle for the two media is 'C'. The maximum possible of deviation of the ray is

    1) $\dfrac{\pi}{2} - C$ 2) $\pi - 2C$ 3) $2C$ 4) $\dfrac{\pi}{2} + C$

104. The magnification produced by an astronomical telescope for normal adjustment is 10 and the length of the telescope is 1.1 m. The magnification, when the image is formed at least distance of distinct vision is

    1) 6   2) 14   3) 16   4) 18

105. A thin prism of angle 6^0 made up of glass of refractive index 1.5 is combined with another prism made up of glass of refractive index 1.75 to produce dispersion without deviation. The angle of second prism is

    1) 7^0 2) 9^0 3) 4^0 4) 5^0

106. If the ratio of maximum and minimum intensities of an interference pattern is 36 : 1, then the ratio of amplitudes of the two interfering waves will be

    1) 3 : 7   2) 7 : 4   3) 4 : 7   4) 7 : 5

107. A short magnet oscillating in vibration magnetometer with a frequency 10 Hz. A downward current of 15 A is established in a long vertical wire placed 20 cm to the West of the magnet. The new frequency of the short magnet is (The horizontal component of earth's magnetic field is $12\mu T$)

1) 4 Hz   2) 2.5 Hz   3) 9 Hz   4) 5 Hz

108. A short bar magnet is arranged with it North pole pointing geographical North. It is found that the horizontal component of Earth's magnetic induction (B_H) is balanced by the magnetic induction of the magnet at a point which is at a distance of 20 cm from its center. The magnetic moment of the magnet is (if $B_H = 4 \times 10^{-5}$ Wb m^{-2})

1) 3.2 A–m^2 2) 1.6 A–m^2 3) 6.4 A–m^2 4) 0.8 A–m^2

109. The plates in a parallel plate capacitor are separated by a distance 'd' with air as the medium between the plates. In order to increase the capacity by 66%, a dielectric slab of dielectric constant '5' is introduced between the plates. What is the thickness of the dielectric slab ?

1) $\dfrac{d}{4}$ 2) $\dfrac{d}{2}$ 3) $\dfrac{5d}{8}$ 4) d

110. Four charges of magnitude '– Q' are placed at the four corners of a square an a change 'q' is at its centre. If the system is in equilibrium the value of is

1) $-\dfrac{Q}{4}\left(1+2\sqrt{2}\right)$ 2) $\dfrac{Q}{4}\left(1+2\sqrt{2}\right)$ 3) $-\dfrac{Q}{2}\left(1+2\sqrt{2}\right)$ 4) $\dfrac{Q}{2}\left(1+2\sqrt{2}\right)$

111. A battery of e.m.f 2.1 V and internal resistance $0.005\,\Omega$ is shunted for 5 second by a wire of constant resistance $0.02\,\Omega$, mass 1 g and specific heat 0.1 cal/g^0/C. The rise in the temperature of the wire is

1) 10.7^{0}C   2) 21.4^{0}C   3) 107^{0}C   4) 214^{0}C

112. The current–voltage graph for a given metallic wire at two different temperatures T_1 and T_2 is shown in the figure. The temperatures T_1 and T_2 are related as

1) $T_1 > T_2$
2) $T_1 < T_2$
3) $T_1 = T_2$
4) $T_1 = 2T_2$

113. For a thermocouple the temperature of cold junction (T_C), neutral temperature (T_n) and temperature of inversion (T_i) are 0^{0}C, 285^{0}C and 585^{0}C respectively. If the temperature of cold junction is raised to 10^{0}C, then

1) $T_n = 275^0$C and $T_i = 570^0$C   2) $T_n = 275^0$C and $T_i = 560^0$C

3) $T_n = 285^0$C and $T_i = 560^0$C   4) $T_n = 295^0$C and $T_i = 580^0$C

114. A wire of length 6.28 m is bent into a circular coil of 2 turns. If a current of 0.5A exists in the coil, the magnetic moment of the coil is, in A–m^2

1) $\dfrac{\pi}{4}$ 2) $\dfrac{1}{4}$ 3) π 4) 4π

115. A metal rod of length 2m is rotating with an angular velocity of 100 radians/sec in a plane perpendicular to a uniform magnetic field of 0.3 T. The potential difference between the ends of rod is

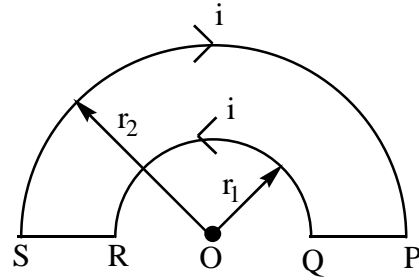1) 30 V   2) 40 V   3) 60 V   4) 600 V

Eamcet-2010 Medical (Physics)

116. A wire loop PQRSP is constructed by joining two semi–conductor coils of radii 'r_1' and 'r_2' respectively as shown in the figure. If the current flowing in the loop is 'i', then the magnetic induction at the point 'O' is

1) $\dfrac{\mu_0 i}{4}\left[\dfrac{1}{r_1} - \dfrac{1}{r_2}\right]$

2) $\dfrac{\mu_0 i}{4}\left[\dfrac{1}{r_1} + \dfrac{1}{r_2}\right]$

3) $\dfrac{\mu_0 i}{2}\left[\dfrac{1}{r_1} - \dfrac{1}{r_2}\right]$

4) $\dfrac{\mu_0 i}{2}\left[\dfrac{1}{r_1} + \dfrac{1}{r_2}\right]$

117. The threshold frequency of the metal of the cathode in a photoelectric cell is 1×10^{15} Hz. When a certain beam of light is incident on the cathode, it is found that a stopping potential '4.144 V' is required to reduce the current to zero. The frequency of the incident radiation is (h = 6.63×10^{-34} J–s)

1) 2.5×10^{15} Hz
2) 2×10^{15} Hz
3) 4.144×10^{15} Hz
4) 3×10^{16} Hz

118. The surface of a metal has work function 2.66 eV. This is illuminated with photons of wavelength 450 nm. The de Broglie wavelength of the emitted photoelectrons is (Mass of electron = 9×10^{-31} kg)

1) 2.045×10^{-9} m
2) 4.09×10^{-9} m
3) 8.18×10^{-9} m
4) 1.02×10^{-9} m

119. If 200 MeV of energy is released in the fission of 1 nucleus of $_{92}U^{235}$, the number of nuclei that undergo fission to produce energy of 10 kwh in one second.

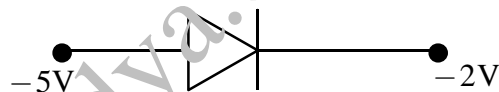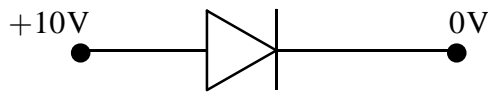1) 11.25×10^{18}
2) 22.5×10^{17}
3) 11.25×10^{17}
4) 22.5×10^{18}

120. In the figures shown below.

1) In both fig. (a) and fig. (b) the diodes are forward biased

2) In both fig. (a) and fig. (b) the diodes are reverse biased

3) In fig. (a) the diode is forward biased and in fig. (b), the diode is reverse biased

4) In fig. (a) the diode is reverse biased and in fig. (b), it is forward biased

81) **2**	82) **4**	83) **2**	84) **1**	85) **1**	86) **2**	87) **1**	88) **4**	89) **1**	90) **3**
91) **3**	92) **2**	93) **3**	94) **1**	95) **1**	96) **3**	97) **2**	98) **2**	99) **3**	100) **2**
101) **4**	102) **2**	103) **2**	104) **2**	105) **3**	106) **4**	107) **4**	108) **1**	109) **2**	110) **2**
111) **4**	112) **2**	113) **3**	114) **1**	115) **3**	116) **1**	117) **2**	118) **2**	119) **3**	120) **3**

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121. The radial probability distribution curve obtained for an orbital wave function (ψ) has 3 peaks and 2 radial nodes. The valence electron of which one of the following metals does this wave function (ψ) correspond to ?

   1) Cu   2) Li   3) K   4) Na

122. In a hydrogen atom, the electron is at a distance of of $4.768\,\overset{0}{A}$ from the nucleus. The angular momentum of the electron is

   1) $\dfrac{3h}{2\pi}$ 2) $\dfrac{h}{2\pi}$ 3) $\dfrac{h}{\pi}$ 4) $\dfrac{2h}{\pi}$

123. The incorrect order of second ionization energies in the following is

   1) $Rb > K$ 2) $Na > Mg$ 3) $Cr > Mn$ 4) $S > P$

124. The correct order of magnitude of bond angles among the compounds CH_4, NH_3 and H_2O is

   1) $CH_4 < H_2O < NH_3$ 2) $H_2O < NH_3 < CH_4$ 3) $NH_3 < CH_4 < H_2O$ 4) $NH_3 < H_2O < CH_4$

125. Molecular orbital theory was proposed by

   1) Lewis   2) Muliken   3) Slater   4) Pauling

126. 0.14 g of an element on combustion gives 0.28 g of its oxide. What is that element ?

   1) Nitrogen   2) Carbon   3) Fluorine   4) Sulphur

127. Equal weights of methane and oxygen are mixed in an empty container at 25⁰C. The fraction of the total pressure exerted by oxygen is

   1) $\dfrac{1}{2}$ 2) $\dfrac{2}{3}$ 3) $\dfrac{1}{4}$ 4) $\dfrac{1}{3}$

128. Which one of the following 1.0×10^{-3} molal aqueous solutions has the highest boiling point ?

   1) Aluminium (III) chloride   2) Lead (II) nitrate

   3) Sodium chloride   4) Magnesium nitrate

129. What is the volume of 0.1M H_2SO_4 required in litres to neutralize completely 1 litre of a solution containing 20 g of NaOH ?

   1) 5.0   2) 0.5   3) 2.5   4) 10.0

130. If the solution of copper sulphate in which a copper rod is immersed, is diluted 100 times, what is the change in electrode potential (Reduction) ?

   1) Increases by 29.5 mV   2) Decreases by 29.5 mV   3) Increases by 59.0 mV   4) Decreases by 59.0 mV

131. What is the e.m.f. of the cell for the reaction $Fe^{2+} + Zn \rightarrow Zn^{2+} + Fe$? Given that

   $E\,E^{0}_{Zn|Zn^{2+}(1.0M)|} = 0.76V$ and $E^{0}_{|Fe^{2+}(1.0M)|} = 0.41V$

   1) 1.17 V   2) 0.35 V   3) –1.17 V   4) –0.35 V

132. A crystalline solid substance has a density of 10 g/cm³ and the length of the edge of the unit cell (FCC) is $20\,\overset{0}{A}$. How many number of atoms are present in 200 grams of the solid ?

   1) 2×10^{23} 2) 1×10^{26} 3) 1×10^{25} 4) 5×10^{27}

133. For the reaction $A + 3B \rightarrow 2C + D$, which one of the following is not correct?

1) Rate of disappearance of A = Rate of formation of D

2) Rate of formation of $C = \dfrac{2}{3} \times$ Rate of disappearance of B

3) Rate of formation of $D = \dfrac{1}{3} \times$ Rate of disappearance of B

4) Rate of disappearance of A = 2 x Rate of formation of C

134. What is the effect of a ten-fold increase in pressure on K_p in the reaction $N_{(2)(g)} + 3H_{2(g)} \rightleftharpoons 2NH_{3(g)}$ at equilibirum ?

1) A ten-fold increase　　2) A ten-fold decrease　　3) No change　　4) Equal to K_C

135. **Assertion (A) :** According to Lowry-Bronsted theory, a subtance can function as an acid as well as a base

Reason (R) : Acid reacts with a base to produce a salt.

The correct answer is

1) Both A and R are true and R explains A

2) Both A and R are true and R does not explains A

3) A is true, R is false　　　　　　　　4) A is false, R is true

136. Heat of formation of CO and CO_2 are –94.0 kcal/mole respectively. What is the heat of combustion of CO in kcals ?

1) +26.4　　　　　2) 120.6　　　　　3) –67.6　　　　　4) 135.2

137. What is the emulsifier in milk ?

1) Albumin　　　　2) Soap　　　　3) Gelatin　　　　4) Caesin

138. Which of the following statements is incorrect ?

1) H_2O_2 has weak acidic property　　　2) H_2O_2 has weak basic property

3) H_2O_2 can act as oxidising agent　　　4) H_2O_2 can act as a reducing agent

139. Match the following

List - I	List - II
A) Dolomite	I) $CaCO_3$
B) Fluorapatite	II) $2BeO . SiO_2$
C) Phenacite	III) $SrSO_4$
D) Celestite	IV) $CaCO_3 . MgCO_3$
	V) $3Ca_3(PO_4)_2 . CaF_2$

The correct answer is

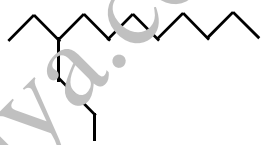|	**A**	**B**	**C**	**D**		**A**	**B**	**C**	**D**
1)	IV	V	III	II	2)	V	IV	II	III
3)	IV	V	I	II	4)	IV	V	II	III

140. Aluminium metal becomes passive in

1) conc. HNO_3　　　2) dil.H_2SO_4　　　3) very dil. HNO_3　　　4) conc. H_2SO_4

141. A and B are the compounds of carbon. A on passing over red hot coke is converted to B. Then A and B are respectively
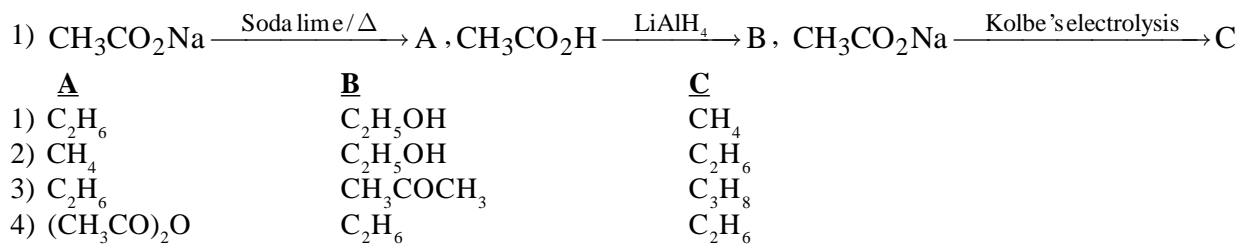
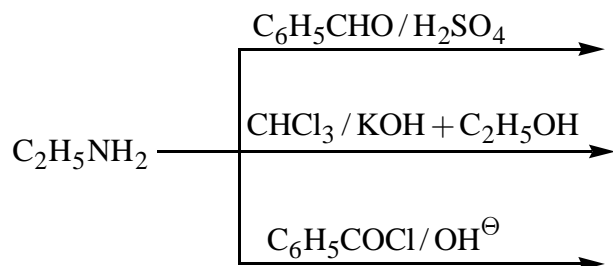1) Co, CO_2　　　2) CO_2, CO　　　3) CH_4, C_2H_6　　　4) $CCI_4, CHCl_3$

142. In P_4O_{10}, the numbetr of oxygen atoms bonded to each phosphorus atom is

1) 3   2) 4   3) 5   4) 6

143. The oxidation number of sulphur in S_8, SO_2 and H_2S, respcectively are

1) 0, +6, –2   2) 0, +4, –2   3) 0, +1, +2   4) 0, +1, –2

144. The order of bond energies in halogen molecules is

1) $F_2 < Cl_2 < Br_2 < I_2$ 2) $F_2 > Cl_2 \, Br_2 > I_2$ 3) $Cl_2 > Br_2 > F_2 > I_2$ 4) $Cl_2 > F_2 > Br_2 > I_2$

145. The shape of XeF_6 is

1) Pentagonal bipyramidal   2) Square planar

3) Octahedral   4) Distrorted octahedral

146. One mole of $CoCl_3 . YNH_3$ complex compound on complete ionisation in water produces thre moles of ions. If one chloride satisties both primary and secondary velencies of cobalt ion, the value of Y is

1) 3   2) 4   3) 5   4) 6

147. The process used in the refining of aluminium and zinc metals are repsectively

1) Hoop's process and fractional distillation   2) Hoop's process and cupellation

3) Poling and fractional distillation   4) Cupellation and fractional distillation

148. Ozone layer is present in

1) Troposphere   2) Stratosphere   3) Mesosphere   4) Thermaosphere

149. The IUPAC name of

1) 4-ethyl decane   2) 3-propyl nonane

3) 3-hexyl hexane   4) 4-hexyl hexane

150. The product obtained when propene undergoes addition reaction with HBr in thepresence of benzoyl peroxide is

1) 1-bromopropane   2) 2-bromopropane   3) 1, 2-dibromopropane   4) 2, 2-dibromopropane

151. Which one of the following compound is formed when nitrobenzene is treated with bromine in the presence of ferric ion ?

1) m-bromonitrobenzene   2) o-bromonitrobenzene

3) p-bromonitrobenzene   4) mixture of o-bromonitrobenzenes

152. Which one of the following not having two chiralcentres ?

1) $H_3C – CH(Br) – CH(OH) – CH_3$ 2) $H_3C – (CH(NH_2) – CH(Br) – CH_3$

3) $H_3C – CH(NH_2) – CH(Cl) – CH_3$ 4) $H_3C – CH(NH_2) – CH_2 – CH_3$

153. Chloroform when heated with silver powder gives

1) CH_4 2) $H_3C – CH_3$ 3) $CH = CH$ 4) $CH_2 = CH_2$

154. Which one of the following compounds in steam distillable ?

1) p-nitrophenol   2) o-bromophenol   3) o-cresol   4) o-nitrophenol

155. Which one of the following is one of the cross end products formed when a mixture of acetone and acetaldehyde is heated after treating with aqueous sodium hydroxide ?

1) $s(CH_3)_2 C = CH – CH$ 2) $(Ch_3)C = CHCOCH_3$

3) $Ch_3 – CH = CH – CHO$ 4) $(CH_3)_2 CH(OH)CH_2CO – CH_3$

156. What are A, B and C in the following reactions ?

1) $CH_3CO_2Na \xrightarrow{\text{Soda lime}/\Delta} A$, $CH_3CO_2H \xrightarrow{LiAlH_4} B$, $CH_3CO_2Na \xrightarrow{\text{Kolbe's electrolysis}} C$

	A	**B**	**C**
1)	C_2H_6	C_2H_5OH	CH_4
2)	CH_4	C_2H_5OH	C_2H_6
3)	C_2H_6	CH_3COCH_3	C_3H_8
4)	$(CH_3CO)_2O$	C_2H_6	C_2H_6

157. A, B and C in the following reactions ?

$$C_2H_5NH_2 \begin{cases} \xrightarrow{C_6H_5CHO/H_2SO_4} \\ \xrightarrow{CHCl_3/KOH+C_2H_5OH} \\ \xrightarrow{C_6H_5COCl/OH^{\ominus}} \end{cases}$$

A	**B**	**C**
1) $C_2H_5CH_2-NHC_6H_5$	C_6H_5NC	$C_6H_5N(COC_6H_5)_2$
2) $C_2H_5-N=CH-C_6H_5$	C_2H_5NC	$C_6H_5-NH-CO-+C_6H_5$
3) $C_6H_5-N=CH-C_6H_5$	C_6H_5CN	$C_6H_5CO-C_6H_5NH_2$
4) $C_6H_5-\overset{\overset{\displaystyle OH}{\displaystyle |}}{C}H-NH-C_6H_5$	C_6H_5-NC	$C_6H_5-\overset{\overset{\displaystyle OH}{\displaystyle |}}{C}=N-C_6H_5$

158. 1, 3-Butadiene and styrene on polymerisation give
   1) Bakelite   2) Terylene   3) Buna-S   4) Teflon

159. Choose the correct statement from the following
   1) All amino acids have comon isoelectric point
   2) All naturally occuring α – amino acids optically acitive except glycine
   3) At pH = 0 all amino acids are present at their anions
   4) In strongly basic solutions, all amino acids are present as their cations

160. Aspirin is acetyl salicylic acid; the pair of functional groups present in the compound is

   1) Hydroxyl, ester   2) Carboxylic acid, hydroxyl

   3) Carboxylic acid, keto   4) Carboxylic acid, ester

121) **4**	122) **1**	123) **1**	124) **1**	125) **2**	126) **4**	127) **4**	128) **1**	129) **3**	130) **4**
131) **2**	132) **3**	133) **4**	134) **3**	135) **2**	136) **3**	137) **4**	138) **2**	139) **4**	140) **1**
141) **2**	142) **2**	143) **2**	144) **3**	145) **4**	146) **3**	147) **1**	148) **2**	149) **1**	150) **1**
151) **1**	152) **4**	153) **3**	154) **4**	155) **1**	156) **2**	157) **2**	158) **3**	159) **2**	160) **4**