TOPPERSDESTINY

IIT & NEET- ACADEMY

NEET WEEKEND TEST – 7

BOTANY

SECTION-A :

1) The floral formula for ashwagandha is

1) $\oplus \, ♀^{\circ} \, K_{(5)}C_{1+2+(2)}+A_{9+1}\underline{G}_1$ 2) $\oplus ♀^{\circ} \, K_{(5)}\overset{\frown}{C_{(5)}A_5}\,\underline{G}_{(2)}$

3) $\oplus \, ♀^{\circ} K_{(5)}C_{1+2+(2)}A_{(9)+1}G_2$ 4) $\oplus \, ♀^{\circ} \, K_{(5)}C_{(5)}+A_{10}\underline{G}_2$

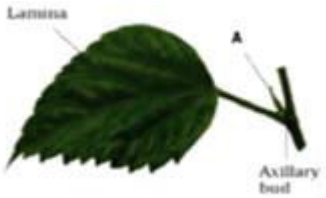
2) $C_{(5)}$ $A_{(5)}$ condition belongs to the flowers of

1) Soyabean 2) Gram 3) Petunia 4) Sesbania

3) Identify the placentation

1) Free central 2) Basal 3) Axile 4) Marginal

4) Identify A in the given diagram



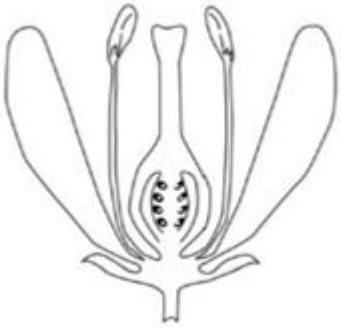
1) Pedicel 2) Ligule 3) Stipule 4) Petiole

5) Match the following:

	Column – I		Column – II
I)	Strawberry	A.	Sucker
II)	Jasmine	B.	Offset
III)	*Pistia*	C.	Runner
IV)	Pineapple	D.	Stolon

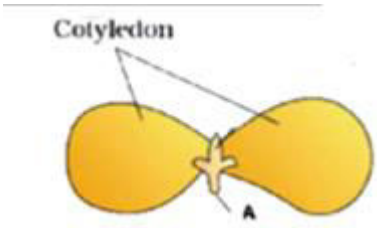
1) I – C, II – D, III – B, IV – A 2) I – B, II – C, III – A, IV – D
3) I – C, II – A, III – B, IV – D 4) I – A, II – B, III – C, IV – D

6) Which type of flower is shown below?



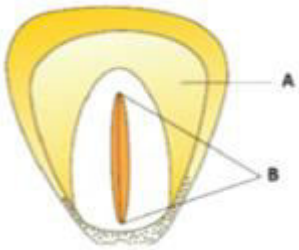
1) Hypogynous 2) Epigynous 3) Perigynous 4) Inferior flower

7) Identify the part of seed marked as A



1) Plumule 2) Radicle 3) Tigellum 4) Epicotyl

8) Identify the parts of seed marked as A and B



1) A- embryo, B- Endosperm 2) A – Endosperm, B- Embryo

3) A – Plumule, B – Radicle 4) A – Radicle, B – Plumule

9) To which family following floral formula is related? Floral formula

$\oplus\ \varphi\ K_{(5)}C_{1+2+(2)}+A_{9+1}\underline{G}_1$

1) Fabaceae 2) Solanaceae 3) Liliaceae 4) Cruciferae

10) To which family following floral diagram is related?

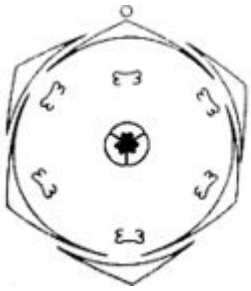
1) Fabaceae 2) Solanaceae 3) Liliaceae 4) Cruciferae

11) To which family following floral formula is related? Formula

$\oplus K_{3+3}+A_{3+3}\underline{G}_{(3)}$

1) Fabaceae 2) Solanaceae 3) Liliaceae 4) Cruciferae

12) To which family following floral diagram is related?



1) Fabaceae 2) Solanaceae 3) Liliaceae 4) Cruciferae

13) To which family following flower is related?

1) Fabaceae 2) Solanaceae 3) Liliaceae 4) Cruciferae

14) Identify the part marked as A and to which family following flower is related?

1) Pedicle, fabaceae 2) Scape, Solanaceae
3) Scape, Liliaceae 4) Pedicel, Cruciferae

15) Select an incorrect statement / event during flower formation
1) Internodes of floral axis do not elongated and get condensed
2) The apex produces different kinds of floral appendages apically at successive nodes
3) When a shoot tip transforms into a flower it is always solitary
4) The arrangement of flowers on the floral axis is termed as inflorescence

16) Monothecous anthers are associated with family
1) Asteraceae 2) Malvaceae 3) Brassicaceae 4) All of these

17) What can be observed in a floral diagram?
1) Hypogyny or epigyny 2) Anther attachment
3) Superior or inferior ovary 4) All of these

18) The cotton fibers of Gossypium species are the
1) Outgrowth of tegmen of the seed 2) Pappus hairs
3) Endosperm 4) Outgrowth of testa of the seed

19) Syngenesious and epipetalous condition is found in family
1) Liliaceae 2) Leguminosae
3) Asteraceae 4) Malvaceae

20) Basal placentation is found in
1) Silene 2) Dianthus 3) Pea 4) Sunflower

21) Whorled phyllotaxy of leaves is characteristics of
1) Hibiscus 2) Brasica 3) Alstonia 4) Calotropis

22) The leaves are modified into spines in
1) Nephenthes 2) Opuntia 3) Australlian Acacia 4) Utricularia

23) Pineapple fruit develops from
1) Unicellular polycarpellary flower
2) Multipistillate syncarpous flower
3) Multilocular monocarpellary flower
4) Acluster of compactly born flower on an axis

24) the photosynthetic or assimilatory roots are observed in
1) Banyan 2) Vanda 3) Cascuta 4) Tinospora

25) Bract is a modified
1) Petal 2) Sepal 3) Leaf 4) Involucres

26) Pome fruit is found in
1) Mango 2) Litchi 3) Peach 4) Apple

27) Which of these an example for zygomorphic flower with imbricate aestivation?
1) Colotropis 2) Mustard 3) Canna 4) CassiaVexillary

28) aestivation is characteristic of the family
1) Solanaceae 2) Brassicaceae 3) Fabaceae 4) Asteraceae

29) Phyllode is preent in
1) Asustrallian acacia 2) Opuntia 3) Asparahus 4) Euphorbia

30) Cymose inflorescence is present in
1) Trifolium 2) Brassica 3) Solanum 4) Sesbania

31) When the margins of sepal or petals overlap one another without any particular direction, the condition is termed as
1) Twisted 2) Valvate 3) Vexillary 4) Imbricate

32) An example of edible underground stem is
1) Sweet potato 2) Potato 3) Carrot 4) Groundnut

33) Placenta and pericarp are both edible portions in
1) Tomato 2) Potato 3) Apple 4) Banana

34) Keel is the characteristic features of flower of
1) Indigofera 2) Aloe 3) Tomato 4) Tulip

35) Perigynous flowers are found in
1) Cucumber 2) China rose 3) Rose 4) Guava

SECTION-B:

36) In ginger, vegetative propagation occurs through
1) Offsets 2) Bulbils 3) Runners 4) Rhizome

37) Axile placentation is present in
1) Argemone 2) Dianthus 3) Lemon 4) Pea

38) Stems modified into flat green organs performing the functions of leave s are known as
1) Scales 2) Cladodes 3) Phyllodes 4) Phylloclades

39) Cotyledon of maize grain is called:
1) Scutellum 2) Plumule 3) Coleorhiza 4) Fabaceae

40) Tricaprellary, syncarpous gynoecium is found in flowers of
1) Poaceae 2) Liliaceae 3) Solanaceae 4) Fabaceae

41) Which of the following is not a stem modification?
1) Flattened structures of opuntia 2) Pitcher of Nepenthes
3) Thorns of citrus 4) Tendrils of cucumber

42) The coconut water from tender coconut represents;
1) Fleshy mesocarp 2) Free nuclear proembryo
3) Free nuclear endosperm 4) Endocarp

43) The standard petal of a papilionaceous corolla is also called
1) Pappus 2) Vexillaum 3) Corona 4) Carina

44) Radial symmetru is found in flower of
1) Brassica 2) Trifolium 3) Pisum 4) Cassia

45) The term polyadelphous is related to
1) Gynoecium 2) Andreocium 3) Corollac 4) Calyxc

ZOOLOGY

SECTION-A:

46) Status of concentration of Na^+ , K^+ and proteins in the axoplasm, respectively are

1) High, high, low 2) Low, high, low 3) Low, high, high 4) High, low, high

47) During impulse transmission, when K^+enters the fluid outside axon, what is correct?

1) No effect on polarity

2) Polarity is reversed and membrane becomes electro-positive outside

3) Polarity is reversed and membrane becomes electro-negative outside

4) Result in opening of Na^+ channels

48) During resting state, axonal membrane of neurons is permeable for

1) Na^+ 2) K^+ 3) Proteins 4) Cl^-

49) Action potential is generated at axonal membrane All of the following are expected except

1) Outer surface of membrane will become negatively charged

2) Membrance is polarized

3) Membrane is nearly impermeable to K^+

4) Both 2 and 3 are not expected

50) An action potential in the nerve fibre is produced when positive and negative charges on outside and inside of the axon membrane are reversed because

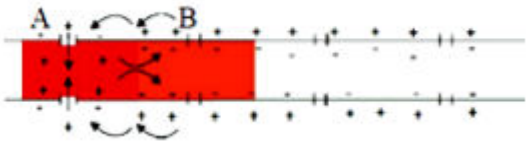
1) More potassium ions enter the axon as compared to sodium ions leaving it

2) More sodium ions enter the axon as compared to potassium ions leaving it

3) All potassium ions leave the axon

4) All sodium ions enter the axon

51) Given below is the diagrammaticrepresentation of impulse conduction through an axon



Select the option with the incorrect

1) An electric current flows on the inner surface from site A to B and on outer surface, from site B to A to complete the circuit
2) 2) Action potential generated at site A arrives at site B

3) Permeability to Na^+ decreases and quickly followed by a rise in permeability to K^+ at site A.
4) Na^+ channels get closed and K^+ channels get opened at site - A. Depolarisation and opening of K^+ channels at site -B

52) How many features are applicable to hormones?

a. Non-nutrient chemicals

b. Intracellular messengers

c. Released in blood or open spaces

d. Produced in trace amounts

1) None 2) One 3) Two 4) three

53) Select the correct statement

1) Neural coordination is fast and long lived

2) Hypothalamus forms the basal part of diencephalon

3) GH-RH is released by pituitary gland

4) Pars distalis is the part of neurohypophysis in pituitary gland

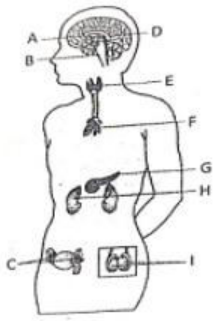
54) Which one of the following pituitary hormones do not have a particular target gland to act up on?

1) TSH 2) GH 3) LH 4) ACTH

55) Which hormone is carried by hypothalamic neurons?

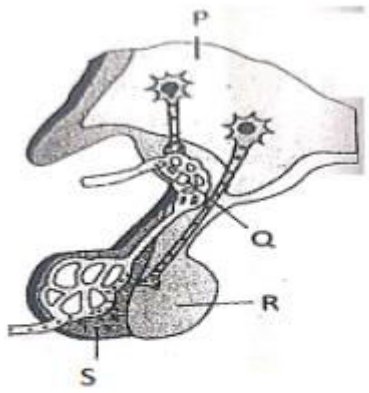
1) GH 2) Releasing hormones 3) Oxytocin 4) Both 2 and 3

56) Various endocrine glands are shown in the diagram Select the correct option



Hypothamalus	Thymus	Adrenal
1) D	E	I
2) B	F	H
3) B	G	C
4) A	F	H

57) Given diagram is of hypothalamic pituitary axis. Select the option with incorrect identification



1) P-Hypothalamus
2) Q-Portal circulation
3) R-Posterior pituitary
4) S-Intermediate lobe

58) Which set of hormones are synthesised by pars distalis of pituitary gland?

1) FSH and LH 2) TSH and MSH 3) ADH and GH 4) GH and Oxytocin

59) Out of the following hormones, how many are secreted from adenohypophysis?

(GH, OXYTOCIN, TSH, MSH, ACTH, FSH)

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

60) Select the incorrect statement

1) Releasing hormones travel through the portal systems

2) GnRH is released from pituitary gland

3) Neural coordination is fast but short lived

4) Somatostain is secreted by hypothalamus

61) Select the correct set of matching

Disease	Hormone	Secretion
1) Gigantism	GH	Hyposecretion
2) Acromegaly	GH	Hypersecretion
3) Dwarfism	GH	Hyposecretion
4) Cretinism	Aldosterone	Hyposecretion

62) S-A: ADH mainly acts on kidneys is synthesised by posterior pituitary

S-B: MSH affects the pigmentation and immune system both

1) Only S-A is correct 2) Only S-B is correct

3) Both S-A and S-B are correct 4) Both S-A and S-B are incorrect

63) The probable reason for the greyish appearance of the cerebral cortex is

1) Presence of bundles of axons in this region

2) The cell body of neuron possess myelin sheath

3) The cell bodies of neuron are concentrated here

4) All of these

64) The association areas of the brain are responsible for

1) Intersensory associations, memory and communication

2) The coordination for sensory and motor singnaling

3) Regulation of respiration and circulation

4) Body temperature, urge for eating and drinking

65) Match the parts of the brain given in column-I with the functions performed by them given in column - II and select the correct option from the codes given below

Part	Function
I) The part forming the cerebral cortex of the brain	i)Maintenance of balance and equilibrium
II) The part situated at the base of the thalamus	ii) Responsible for motor ,sensory and intersensory associations
III) The part of hind brain with convoluted surface	iii) Has centers for control of activities like respiration, gastric secretions, etc.
IV) The part which connects with the spinal cord	iv) Control of body temperature and the urge for eating and drinking

1) I - ii, II - iii, III - iv, IV - ii 2) I - ii, II - iv, III - i, IV – iii

3) I - iii, II - i, III - ii, IV - iv 4) I - iv, II - ii, III - iii, IV – i

66) Which of the following statement regarding forebrains is correct?

1) Forebrain consists of hypothalamus, thalamus and cerebellum

2) The layer of cell covering the cerebral hemispheres is referred to as white matter

3) The lobe involved in regulation of sexual `behaviour and expression of emotional Reaction is part of the forebrain

4) Association areas of the forebrain are sensory n function

67) Given below are the steps involved in the generation and conduction of nerve impulse. Arrange them in proper sequence and select the correct option

I. Rapid influx of Na+ ions followed by reversal of polarity at the site of application of stimulus

II. Reversal of polarity and generation of action potential at a point ahead of the point of application of stimulus.

III. Development of free permeability to Na+ ions at the site of application of stimulus

IV. Amival of the impulse generated at the first site to the second site

V. Rise in permeability of K+ ions and restoration of the resting potential of the membrane

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

68) Select wrong statement

1) Oxytocin is responsible for growth of mammary glands

2) ADH promotes diuresis

3) Prolaction helping formation of corpus luteum

4) All of the above statements are wrong

69. Which of the following is correct about association areas of brain?

1) The are large regions that are neither clearly sensory normotor in function

2) They are responsible for communication and memory

3) They control several emotional reactions

4) Both 1 and 2

70) Which set of hormones regulate spermatogenesis?

1) LH only 2) FSH only 3) LH and androgens 4) FSH and androgens

71) Select the correct option

Contraction of Uterus Ejection of Milk

1) Oxytocin	Oxytocin
2) Oxytocin	Prolactin
3) Prolactin	Prolactin
4) LH	Oxytocin

72) Which hormone is responsible for synthesis and release of testosterone from testis?

1) FSH 2) LH 3) Aldosterone 4) Cortisol

73) Read the following statements (A-E) and answer the question that follows them

A-Master of endocrine gland located in sella tursica

B-Posterior lobe of pitutitary gland is under direct neural regulation

C-Ovulation of Graafian follicles is mediated byLH

D-Source of FSH and TSH is same

E-Hormones are non-nutrient chemicals

How many of the above statements are incorrect?

1) None 2) One 3) Two 4) Three

74) Which hormone is responsible for conversion of remnants of the Graafian follicles into Corpus luteum after ovulation?

1) Progesterone 2) FSH 3) LH 4) Oestrogens

75) Identify the incorrect statement

1) Durmater meninge is closer to cranium

2) Cerebral cortex is made up of grey matter

3) Midbrain, pons and medulla constitute brainstem

4) Thalamus is covered by cerebellum

76) Cerebral aqueduct is found in

1) Forebrain 2) Midbrain 3) Hindbrain 4) Spinal cord

77) Which function is not related to hypothalamus?

1) Regulation of sexual behaviour 2) Control of body temperature

3) Urger for eating and drinking 4) Sense of small

78) Which centre is not found in medulla

1) Respiratory centre 2) Centre related with gastric secretions

3) Centre related with cardiac functions 4) Centre related with excitement and rage

79) Incorrect about association area is

1) Made up of nonmyelinated tracts 2) Related with complex functions like memory

3) Interpretition of motor signalling 4) Neither purely motor nor sensory

80) Cerebrum wraps around a structure called . ..1.... is located at the base of ...2..., which is responsible for synthesis of various hormones including ...3.... (Contraction of uterine muscles), ...4....(preventing excess urination), etc

1	2	3	4
1) Hypothalamus	Pituitary	GH	ADH
2) Hypothalamus	pituitary	Prolactin	ACTH
3) Thalamus	Hypothalamus	Oxytocin	ADH
4) Thalamus	Hypothalamus	Oxytocin	ACTH

SECTION-B:

81) Which of the following is in direct contact of brain in Human?

1) Cranium 2) Duramater 3) Arachnoid 4) Piamater

82) Which of the following is responsible for connecting both cerebral hemispheres?

1) Association areas 2) Cerebral cortex 3) Corpus callosum 4) Myelin sheath

83) Which part of brain act as centre for following?

1) Hypothalamus	Hypothalamus
2) Medulla	Midbrain
3) Cerebellum	Cerebrum
4) Hypothalamus	Medulla

84) Corpora quadrigemina is found in ... portion of .

1) Ventral, Forebrain 2) Ventral, Midbrain

3) Dorsal, Forebrain 4) Dorsal, Midbrain

85) Which part of brain act as centre for memory?

1) Cerebrum 2) Medulla 3) Midbrain 4) Hypotinalamus

86) Major respiratory centres in brain are located in

1) Medulla 2) Pons 3) Cerebellum 4) Hypothalamus

87) Which part of brain is located between thalamus and hindbrain?

1) Cerebellum 2) Midbrain 3) Cerebrum 4) Pineal gland

88) Select the incorrect statement

1) Cerebellum is very much convoluted for more accommodation of neurons

2) Medulla is centre for cardio-vascular reflexes

3) Limbic system is involved in expression of emotional reactions and motivation

4) The tracts of the cerebellum connects different regions of the brain

89) Match the columns

Column A (part of Brain)	Column B (Centre for)
A. Medulla	1. Cardiovascular reflexes
B. Hypothalamus	2. Gastric secretions
C. Cerebrum	3. Inter-sensory association
	4. Body temperature
	5. Memory
	6. Communication

1) A - 1, 2, 3; B - 5; C - 4, 6
2) A - 1, 2; B - 4; C - 3, 5, 6
3) A - 2, 3; B - 4, 5; C - 1, 6
4) A - 2; B -4, 6; C - 3, 5

90) Which one of the following hormones though synthesised elsewhere, is stored and released by the master gland?

1) Melanocyte stimulating hormone 2) Antidiuretic hormone

3) Luteinizing hormone 4) Prolactin

CHEMISTRY

SECTION-A:

91) The specific conductance (κ) of an electrolyte of 0.1 N concentration is related To equivalent conductance (Λ) by the following formula

1) $\Lambda=\kappa$ 2) $\Lambda=10\kappa$ 3) $\Lambda=100\kappa$ 4) $\Lambda=10000\kappa$

92) Given l/a=0.5cm^{-1},R = 50 ohm, N = 1.0 The equivalent conductance of the electrolytic cell is

a) $10\Omega^{-1}\ cm^2\ g\ equiv^{-1}$
b) $20\Omega^{-1}\ cm^2\ g\ equiv^{-1}$
c) $300\Omega^{-1}\ cm^2\ g\ equiv^{-1}$
d) $100\Omega^{-1}\ cm^2\ g\ equiv^{-1}$

93) Specific conductivity of a solution
1) Increases with dilition 2) Decreases with dilution
3) Remains unchanged with dilution 4) Depends on mass of electrolyte

94) Which one of the following solutions will have highest conductivity?
a) 0.1 M CH_3 COOH b) 0.1 M NaCl
c) 0.1 M KNO_3 d) 0.1 M HCl

95) Pure water does not conduct electricity because it is
1) Basic 2) Almost not ionised 3) Decomposed easily 4) Acidic

96) What is the effect of dilution on the equivalent conductance of strong electrolyte?
1) Decreases on dilution 2) Remains unchanged
3)Increases on dilution 4)None of these

97) The highest electrical conductivity of the following aqueous solutions is of
1) 0.1 M difluoroacetic acid 2) 0.1 M fluoroacetic acid
3)0.1 M chloroacetic acid 4) 0.1 M acetic acid

98) The amount of substance deposited by the passage of 1 A of current for 1 s is equal to
1) Equivalent mass 2) Molecular mass
3) Electrochemical equivalent 4) Specific equivalent

99) Use of electrolysis is not done in
1) Production of Na 2) Production of water
3)Purification of metals 4) Production of KOH

100) The laws of electrolysis ware proposed by
1) Kohlraush 2) Faraday 3) Nernst 4) Berthelot

101) Which of the following is not correct?
1) Aqueous solution of NaCl is an electrolyte.
2) The units of electrochemical equivalent are gcoulomb.
3)In the Nernst equation, n represents the number of electrons transferred in the electrode reaction.
4) Standard reduction potential of hydrogen electrode is zero volt.

102) H_2 cannot be displaced by
a) Li^+ b) Sr^{2+} c) Al^{3+} d) Ag^+

103) The standard electrode potentials of Ag^+ / Ag is +0.80 V and Cu+ /Cu is +0.34 V. These electrodes are connected through Asalt bridge and if

1) Copper electrode acts as Acathode then E^0_{cell} is +0.46 V
2) Silver electrode acts as anode then E^0_{cell} is 0.34 V
3) Copper electrode acts as anode then E^0_{cell} is +0.46 V
4) Silver electrode acts as Acathode then E^0_{cell} is 0.34 V

104) The emf of the cell, Ag $|Ag^+$ (0.1 M) $||$ Ag^+ (1 M) | Ag at 298 K is
1) 0.0059 V 2) 0.059 V 3) 5.9 V 4) 0.59 V

105) Which of the following metal can replace zinc from $Znso_4$ solution?
1) Cu 2)Hg 3) Fe 4) Al

106) Aluminium displaces hydrogen from dilute HCl whereas silver does not. The emf of A cell prepared by combining Al/ Al_{3+} and Ag / Ag^+ is 2.46 V. The reduction potential of silver electrode is +0.80 V. The reduction potential of aluminium electrode is
1) +1.66 V 2) -3.26 V 3) 3.26 V 4) -1.66 V

107) If the H^+ concentration is decreased from 1 M to 10^{-4} M at 25 °C for the couple MnO_4^-/Mn^{2+}, then the oxidising power of the MnO_4^-/Mn^{2+} couple decreases by
1) -0.18 V 2) 0.18 V 3) 0.38 V 4) -0.38 V

108) What will be the electrode potential of that hydrogen electrode is filled with HCl solution of pH value 1.0?
1) -59.15 V 2) +59.15 3) +59.15 mV 4) -59.15 mV

109) The emf of the cell
$Ni \mid Ni^{2+}$ (1.0 M) $\| Au^{3+}$ (1.0 M) $\mid Au$
is [E° (Ni^{2+}/Ni) =-0.25 V and
E° (Au^{3+}/Au) =+1.5 V
a) 2.00 V b) 1.25 V c) -1.25 V d) 1.75 V

110) Agalvanic cell with electrode potential of 'A' =+2.23 V and 'B' = -1.43 V. The value of E^0_{cell} is
1) 3.66 V 2) 0.80 V 3) -0.80 V 4) -3.66 V

$Zn^{2+} \longrightarrow Zn\ (s);\ E^\circ = -0.76\ V$
111) $Cu^{2+} \longrightarrow Cu\ (s);\ E^\circ = -0.34\ V$ Which of the following is spontaneous?

a) $Zn^{2+} + Cu \longrightarrow Zn + Cu^{2+}$
b) $Cu^{2+} + Zn \longrightarrow Cu + Zn^{2+}$
c) $Zn^{2+} + Cu^{2+} \longrightarrow Zn + Cu$
d) None of the above

112) The standard reduction potentials of $Zn^{2+} \mid Zn$, $Cu^{2+} \mid Cu$ and $Ag^+ \mid Ag$ are respectively – 0.76, 0.34 and 0.8 V. The following cells were constructed

I $Zn \mid Zn^{2+} \parallel Cu^{2+} \mid Cu$

II $Zn \mid Zn^{2+} \parallel Ag^{+} \mid Ag$

III $Cu \mid Cu^{2+} \parallel Ag^{+} \mid Ag$ What is the correct order of E^0_{cell} of these cells?

1) II > III > I
2) II > I > III
3) I > II > III
4) III > I > II
5)

113) Electrode potential of hydrogen electrode is volt.

1) 0 2) +1 3) -1 4) None of these

114) Which one of the following nitrates will leave behind Ametal on strong heating?

1) Ferric nitrate 2) Copper nitrate 3) Manganese nitrate
4) Silver nitrate

115) Daniel cell, anode and cathode are respectively

a) $Zn \mid Zn^{2+}$ b) $Cu \mid Cu^{2+}$ c) $Fe \mid Fe^{2+}$ d) $Cu \mid Cu^{2+}$

116) Which of the following reactions is correct for a given electrochemical cell at 25 °C?

$Pt \mid Br_2(g) \mid Br^-(g) \parallel Cl^-(aq) \mid Cl_2(g) \mid Pt$

a) $2Br^-(aq) + Cl_2(g) \longrightarrow 2Cl^-(aq) + Br_2(g)$

b) $Br_2(g) + 2Cl^-(aq) \longrightarrow 2Br^-(aq) + Cl_2(g)$

c) $Br_2(g) + Cl_2(g) \longrightarrow 2Br^-(aq) + 2Cl^-(aq)$

d) $2Br^-(aq) + 2Cl^-(aq) \longrightarrow Br_2(g) + Cl_2(g)$

117) In the electrochemical reaction, $2Fe^{3+} + Zn \rightarrow Zn^{2+} + 2\,Fe^{2+}$ increasing the concentration of

1) Increases cell emf 2) Increases the current flow
3) Decreases the cell emf 4) Alter the pH of the solution

118) In Acell that utilises the reaction,

$Zn(s) + 2H^+(aq) \rightarrow Zn^{2+}(aq) + H_2(g)$

addition of H_2SO_4 to cathode compartment, will

1) Lower the E and shift the equilibrium to the left
2) Lower the E and shift the equilibrium to the right
3) Increase the E and shift the equilibrium to the right
4) Increase the E and shift the equilibrium to the left

119) The metal used to recover copper from Asolution of $CuSO_4$ is

1) Fe 2) He 3) Na 4) Ag

120) E° values of Mg^{2+} / Mg is -2.37 V, of Zn^{2+} / Zn is -0.76 V and Fe^{2+} / Fe is -0.44 V. Which of the statements is correct?

a) Zn will reduce Fe^{2+}
b) Zn will reduce Mg^{2+}
c) Mg oxidises Fe
d) Zn oxidises Fe

121) What is the value of E_{cell}?
$Cr \mid Cr^{3+}\ (0.1\ M) \parallel Fe^{2+}\ (0.01\ M) \mid Fe$ Given, and
1) +0.2941 V 2) +0.5212 V 3) +0.1308 V 4) -0.2606 V

122) The standard electrode potential is measured by
1) Electrometer 2) Voltmeter 3) Pyrometer 4) Galvanometer

123) The metal that does not displace hydrogen from an acid is
1) Ca 2) Al 3) Zn 4) Hg

124) The emf of the cell, $(E_{Zn^{2+}/Zn} = -0.76\ V)$
$Zn / Zn^{2+}\ (1\ M) \parallel Cu^{2+}\ (1\ M) \mid Cu$
$(E_{Cu^{2+}/Cu} = +0.34\ V)$ will be
1) +1.10 V 2) -1.10 V 3) +0.42 V 4) -0.42 V

125) Astandard hydrogen electrode has zero electrode potential because
1) Hydrogen is easier to oxidise
2) This electrode potential is assumed to be zero
3) Hydrogen atom has only one electron
4) Hydrogen is the lightest element

SECTION-B:

126) The element which can displace three other halogens from their compound is
1) F 2) Cl 3) Br 4) I

127) In a galvanic cell, the electrons flow from
1) Anode to cathode through the external circuit
2) Anode to cathode through the solution
3)Cathode to anode through the external circuit
4) Cathode to anode through the solution

128) Which of the following statements is correct? Galvanic cell converts
1) Chemical energy into electrical energy
2) Electrical energy into chemical energy
3) Metal from its elemental state to the combined state
4) Electrolyte into individual ions

129) If a salt bridge is removed from the two half cells, the voltage
1) Drops to zero 2) Does not change
3) Increase gradually 4) Increase rapidly

130) Which of the following is displaced by Fe?

1) Ag 2) Zn 3) Na 4) All of these

131) Which of the following liberates hydrogen on reaction with dilute H_2SO_4?
1) Al 2) Fe 3) Cu 4) Hg

132) The unit of electrochemical equivalent is :
1) gram 2) Gram/ampere 3) Kg/coulomb 4) Coulomb/gram

133) The electrolytic bath used in gold plating of copper articles contains :
1) Molten gold 2) $CuSO_4$ 3) $AuCl_3$ 4) $AuCl_3$+NaCN

134) Which loses charge at cathode?
1) Ions 2) Cations 3) Anions 4) Both anions and cations

135) Which is not true for a standard hydrogen electrode?
1) The hydrogen ion concentration is $1M$
2) Temperature is 25°C
3) Pressure of hydrogen is 1 atmosphere
4) It contains a metallic conductor which does not adsorb hydrogen

ZOOLOGY

SECTION-A :

46) Status of concentration of Na^+ , $K^+$and proteins in the axoplasm, respectively are

1) High, high, low 2) Low, high, low 3) Low, high, high 4) High, low, high

47) During impulse transmission, when K^+ enters the fluid outside axon, what is correct?

1) No effect on polarity

2) Polarity is reversed and membrane becomes electro-positive outside

3) Polarity is reversed and membrane becomes electro-negative outside

4) Result in opening of Na^+ channels

48) During resting state, axonal membrane of neurons is permeable for

1) Na^+ 2) K^+ 3) Proteins 4) Cl^-