DEPARTMENT OF SCHOOL EDUCATION
Government NEET Coaching- 2019-20
MILESTONE - 3

Time: 60 min

Marks: 240

Instructions:

1) Answer all the questions

2) For Every correct answer Four marks will be given

3) For Every wrong answer One mark will be deducted

CHOOSE THE CORRECT ANSWER **60x4=240**

1 The Position of a body moving along x axis at time t is given by $x = (t^2 - 4t + 6)$m. The distance travelled by body in time interval t = 0 to t = 3s is;

1) 5m
2) 7m
3) 4m
4) 3m

2 If v is the velocity of the body moving along x axis, then acceleration of a body is

1. $\frac{dv}{dx}$
2. $v.\frac{dv}{dx}$
3. $x.\frac{du}{dx}$
4. $v.\frac{dx}{dt}$

3 The position of a particle moving along x axis is given by $x = 10t - 2t^2$. Then the time (t) at which it will momently come to rest is

1. 0
2. 2.5 s
3. 5 s
4. 10 s

4 A car moves with the speed 60 Kmph for 1 hour in east direction and with same speed for 30 min in south direction. The displacement of car from initial position is

1. 60 Km
2. 30 √3 Km
3. 30 √5 Km
4. 60 √2 Km

5 A person travels along a straight road for the first t/3 time with a speed V_1 and for next 2t /3 time with a speed V_2. Then the mean speed V is given by

1. $V = \frac{V_1 + 2V_2}{3}$
2. $\frac{1}{V} = \frac{1}{3V_1} + \frac{2}{3V_2}$
3. $V = \frac{1}{3}\sqrt{2V_1V_2}$
4. $V = \sqrt{\frac{5V_2}{3V_1}}$

6 If the displacement of a particle varies with time as √x = t +5, then

1. Velocity of the particle is inversely proportional to t
2. Velocity of the particle is proportional to t^2
3. Velocity of the particle is proportional to $\sqrt{t}$
4. The particle moves with constant acceleration

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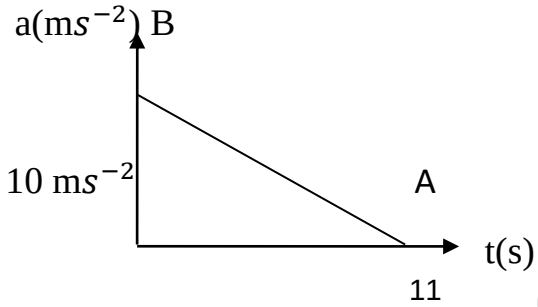
7 A particle starts moving with acceleration $2ms^{-2}$. Distance travelled by it in 5^{th} half second is

1. 1.25m
2. 2.25m
3. 6.25m
4. 30.25m

8 Which of the following represents uniformly accelerated motion?

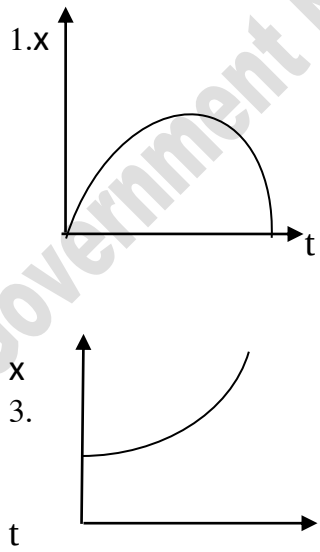
1. $x=\sqrt{\frac{t+a}{b}}$
2. $vx=\frac{t+a}{b}$
3. $t=\sqrt{\frac{x+a}{b}}$
4. $x=\sqrt{t+a}$

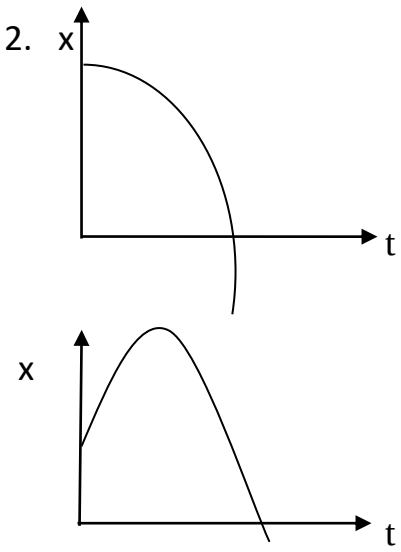
9 A particle starts from rest. It acceleration (a) verses time (t) , graph is as shown in the figure. The maximum speed of the particle will be



1. $110\ ms^{-1}$
2. $55\ ms^{-1}$
3. $550\ ms^{-1}$
4. $660\ ms^{-1}$

10 The displacement x of a particle in a straight-line motion is given by $x = 1 – t – t^2$. The correct representation of motion is





11 A lift is coming from 8^{th} floor and is just about to reach 4^{th} floor. Taking ground floor as origin and positive direction upwards for all quantities, which one of the following is correct?

1. $x < 0, v < 0, a > 0$
2. $x > 0, v < 0, a > 0$

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3. $x > 0, v < 0, a > 0$ 4. $x > 0, v > 0, a < 0$

12 The displacement of a particle is given by $x = (t-2)^2$ where x is in m and t is second. The distance covered by the particle in first 4 seconds is

1. 4m 2. 8m
3. 12m 4. 16m

13 A car moving with the velocity of 10 ms^{-1} can be stopped by the application of constant force 'F' in a distance of 20m. If the velocity of the car is 30 ms^{-1}, it can be stopped by this force in

1. $\frac{20m}{3}$ 2. 20m
3. 60m 4. 180m

14 A ball is dropped on to the floor from a height of 10m. It rebounds to a height of 5m. If the ball was in contact with the floor for 0.01s, what was its average acceleration during contact? [g = ms^{-2}]

1. 2414 ms^{-2} 2. 1735 ms^{-2}
3. 3120 ms^{-2} 4. 4105 ms^{-2}

15 A body moves for a total of nine second starting from rest with uniform acceleration and then with uniform retardation, which is twice the value of acceleration and then stops. The duration of uniform acceleration is

1. 3s 2. 4.5s
3. 5s 4. 6s

16 Splitting of spectral lines in an magnetic field is called

1. Zeeman effect 2. shielding effect
3. Compton effect 4. start effect

17 Two electrons occupying the same orbitals are distinguished by

1. Azimuthal quantum number
2. Spin quantum number
3. Magnetic quantum number
4. Orbital quantum number

18 Which of the following pairs of d-orbitals will have electron density along the axes ?

1. dz^2, dxz 2. dxz, dyz 3. dz^2, $dx^2 - y^2$ 4. dxy, $dx^2 - y^2$

19 The Electronic configuration of Eu (At.no 63) Gd (At no 64 and Tb [At no 65] are

1. [Xe] $4f^6\ 5d^1\ 6s^2$, [Xe] $4f^7\ 5d^1\ 6s^2$,and [Xe] $4f^8\ 5d^1\ 6s^2$
2. [Xe] $4f^7\ 6s^2$,[Xe] $4f^7\ 5d^1\ 6s^2$ and [Xe] $4f^9 6s^2$
3. [Xe] $4f^7\ 6s^2$, [Xe] $4f^8\ 6s^2$,and [Xe] $4f^8\ 5d^1\ 6s^2$
4. Xe] $4f^6\ 5d^1\ 6s^2$,[Xe] $4f^7\ 5d^1\ 6s^2$and [Xe] $4f^9 6\ 6s^2$

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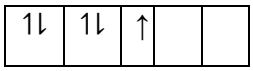
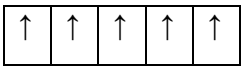
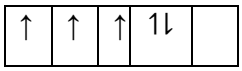
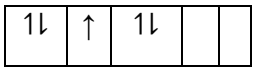
20 The total number of orbitals associated with the principal quantum number n=3 is

1. 9 2. 8 3. 5 4. 7

21 Consider the following electronic configuration arrangements for d^5 which of these represents ground state

1. 
2. 
3. 
4. 

22 In Rutherford gold foil experiment , the gold foil is bombarded by _____

1. neutrons 2. β - particles 3. α – particles 4. positions

23 Davision and Germer method experimentally confirmed

1. particle nature 2. Dual nature

3. wave nature 4. both particle and wave nature

24 Which of the following forms the largest number of compounds ?

1. Carbon 2. Hydrogen 3. Oxygen 4. Nitrogen

25 How many orbitals are possible in the 4^{th} energy level ?

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

26 Maximum probability of finding the electron around the nucleus is

1) 0.52 A` 2) 0.25 A` 3) 0. 57 A` 4) 0. 54 A`

27 In one election system of Hydrogen , the energy of the electron in the n^{th} orbit is given by

1) $E_n = \frac{(+1312.8)\ Z^2}{n^2}$ KJmol^{-1} 2) $\frac{(-1312.8)\ Z^2}{n^2}$ KJmol^{-1}

3) $E_n = \frac{(+1312.8)\ n^2}{z^2}$ mol^{-1} 4) $\frac{(-1312.8)\ n^2}{z^2}$ KJ

28 How many nodal planes in the f – orbitats?

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

29 More number of exchange energy is possible only in case of

1. Half and fully filled configuration
2. Half filled configuration
3. Fully filled configuration
4. None of these

30 The exchange energy in the basis for

1. Aufbau principle 2. Hund's rule
3. Paul's exclusion principle 4. All of the above

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31 Which one of the following is common to multicellular fungi, filamentous algae and protonema of mosses?

1. Diplontic life cycle
2. Members of kingdom planate
3. Mode of nutrition
4. Multiplication by fragmentation

32 The term systematics refers to

1. The identification and classification of plants and animals
2. The nomenclature and identification of plants and animals
3. The diverse kind of organisms and their relationship
4. The different kinds of organisms and their classification

33 Match column I with column II for mango classification and select the correct option using the codes given below

Column - I		Column - II
A) Family	i)	Sapindales
B) Order	ii)	Angiosperms
C) Class	iii)	Anacardiaceae
D) Division	iv)	Dicotyledonae

1)	(A-iii)	(B -ii)	(C -iv)	(D-i)
2)	(A-iv)	(B -iii)	(C -ii)	(D-i)
3)	(A-iv)	(B -ii)	(C -i)	(D-iii)
4)	(A-iii)	(B -i)	(C -iv)	(D-ii)

34 Identify the correct sequence of taxonomic categories

1. Species → Genus → Family →Order →Class → Division → Kingdom
2. Family → Kingdom →Division →Genus → Order → Class → Species
3. Division → Kingdom → Order → Class → Species →Genus →Family
4. Division →Order →Species→ Family→ Kingdom →Class → Genus

35 The binomial nomenclature was given by

1. Lamarck
2. Ernst Mayr
3. Carolus Linnaeus
4. Darwin

36 In binomial nomenclature

1. Both genus and species are printed in italics
2. Genus and species may be same name

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3. Both initial letters in genus and species in capital
4. Genus is written after the species

37 The Indian Botanical Garden situated at

1. Chennai
2. Lucknow
3. Howrah
4. Delhi

38 ICBN stands for

1. International code for Biosphere Nomenclature
2. International code for Botanical Nomenclature
3. International code for Biological Nomenclature
4. International committee for Biological Naming

39 Growth development and functioning of living body is due to

1. Decrease in entropy
2. Increase in Gibbs free energy
3. Metabolism
4. Adaptations

40 The number of known and described species that are in the range of approximately

1. 1.3 to 1.4 million
2. 1.4 to 1.5 million
3. 1.7 to 1.8 million
4. 1.9 to 2.5 million

41 The word systematics is derived from the Latin word

1. Systematic
2. Systema
3. System
4. Systemic

42 The place where we store dry plants for information purpose is called

1. Botanical Gardens
2. Key
3. Herbarium
4. Museum

43 Linnaeus evolved a system of nomenclature called

1. Vernacular
2. Binomial
3. Polynomial
4. Trinomial

44 Which is not a part of taxonomic hierarchy?

1. Kingdom and Division
2. Genus and species
3. Family and Order
4. Museum and Herbarium

45 The National Botanical Research Institute situated at

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1. Lucknow
2. Trichy
3. Hyderabad
4. Kolkata

46 Ichthyophis belongs to class

1) Amphibia
2) Reptiles
3) Aves
4) Elasmobranchs

47 Match column I and column II and select the correct option

Column I	Column II
A) Amphibia	(i) Air bladder
B) Mammals	(ii) Catilaginous notochord
C) Chondrichthyes	(iii) Mammary glands
D) Ostheichthyes	(iv) Pneumatic bones
E) Cyclostomata	(v) Dual habitat
F) Aves	(vi)Sucking and circular mouth without jaws

1)	A (i)	B (iii)	C (iv)	D (v)	E (ii)	F (vi)
2)	A (ii)	B (v)	C (iv)	D (vi)	E (iii)	F (i)
3)	A (v)	B (iii)	C (ii)	D (i)	E (vi)	F (iv)
4)	A (vi)	B (ii)	C (iii)	D (i)	E (iv)	F (v)

48 Which one of the following phyla is not correctly matched with its general characteristics

1) Arthropoda - Bilaterally symmetrical Ï triploblastic having jointed appendages
2) Mollusca - Presence of water vascular system
3) Echinodermata - All are marine with organ system level of organisation
4)Hemichordate - The body is made of proboscis a collar and a trunk

49 A file like rasping organ for feeding called radula is present in the phylum

1) Arthropoda 2) Mollusca 3) Echinodermata 4) Chordata

50 Match the phylum given in column I with their example given column II and choose the correct option

Column I	Column II
A) Echinodermata	i) Ascidia , Doliolum
B) Hemichordata	ii) Asterias ,Ophiura
C) Urochordata	iii) Branchiostoma

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D) Cephalochordata iv) Balanoglossus ,Saccoglossus

1) A (iv) B (ii) C (i) D (iii)

2) A (ii) B (iv) C (i) D (iii)

3) A (ii) B (iv) C (iii) D (i)

4) A (ii) B (i) C (iv) D (iii)

51 Which one of the following group is correctly matched with its characteristic feature without even a single exception ?

1) Reptilia - Possess 3 chambered heart with one incompletely divided ventricle

2) Chordata - Possess a mouth provided with an upper and lower jaw.

3) Chondrichthyes Possess cartilaginous endoskeleton.

4) Mammalia Give birth to young ones.

52 Which of the following sets of animals give birth to young ones ?

1) Platypus, Penguin ,Bat ,Hippopotamus

2) Shrew ,Bat, Cat, Kiwi

3) Kangaroo ,Hedgehog ,Dolphin ,Loris

4) Lion ,Bat ,Whale, Ostrich

53 Assertion (A) A shark has to swim constantly to avoid sinking

Reason (R) Air bladder is absent in sharks

1) Both A & R are true and R is the correct explanation of A.

2) A & R are true but reason is not the correct explanation of assertion.

3) A is true that but Reason is false.

4) Both A & R are true.

54 Which of the following is a representative of phylum arthropods?

1) Puffer fish

2)Flying fish

3) cuttle fish

4)Silver fish

55 What is common among Parrot , platypus and kangaroo ?

1) Toothless jaws 2) Viviparity

3) Oviparity 4) Homeothermy

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56 “ Torsion ” is the characteristic of

1) Gastropoda 2) Amphineura

3) Cephalopoda 4) Pelecypoda

57 Urinary bladder is absent in

1) Amphibia 2) Reptilia

3) Aves 4) Mammals

58 Identify the scientific name of the animal called Blue whale

1) Macropus 2) Pteropus

3) Delphinus 4) Balaenoptera

59 A jawless fish which lays eggs in fresh water and whose ammocoetes larvae after Metamorphosis return to the ocean is

1) Myxine 2) Neomyxine

3) Petromyzon 4) Eptatretus

60 A marine cartilaginous fish that can produce electric current is

1) Pristis 2) Torpedo

3) Trygon 3) Scoliodon

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ANSWER KEY

1	1	16	1	31	4	46	1
2	2	17	2	32	3	47	3
3	2	18	4	33	4	48	2
4	1	19	1	34	1	49	2
5	1	20	1	35	3	50	2
6	4	21	2	36	1	51	3
7	2	22	3	37	3	52	3
8	3	23	1	38	2	53	1
9	2	24	1	39	3	54	4
10	2	25	4	40	3	55	4
11	1	26	1	41	2	56	1
12	2	27	2	42	3	57	3
13	4	28	3	43	2	58	4
14	1	29	3	44	4	59	3
15	4	30	4	45	1	60	2

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