

DEPARTMENT OF SCHOOL EDUCATION
Government NEET Coaching- 2019-20
MILESTONE - 2

Time: 60 mins

Marks: 240

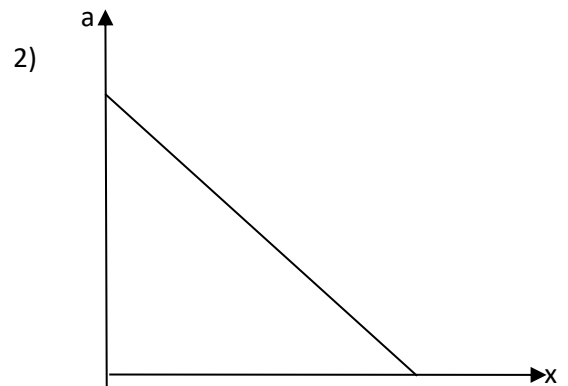
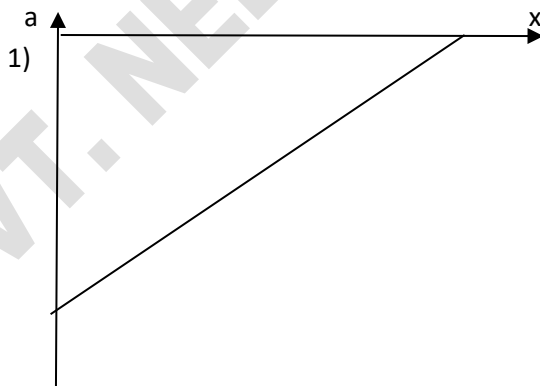
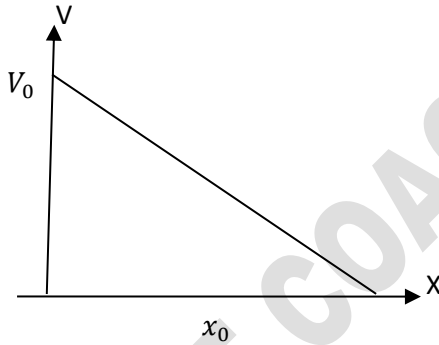
Instructions:

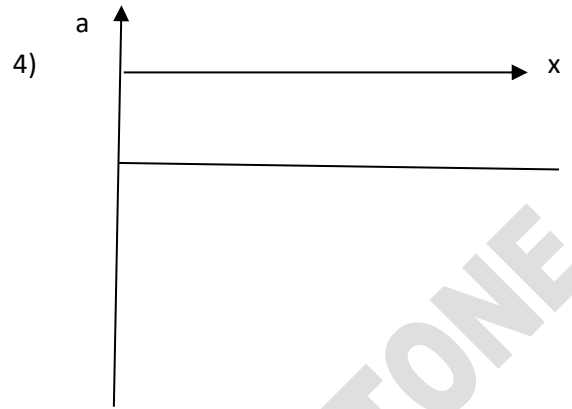
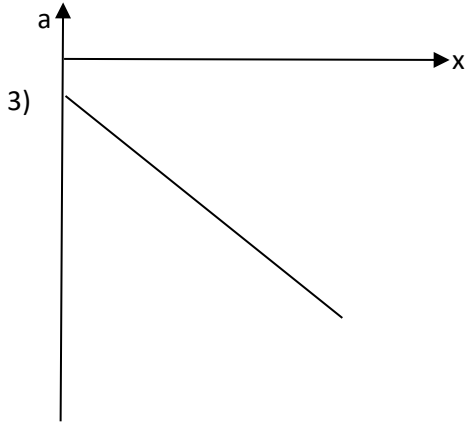
- 1) Answer all the questions
- 2) For Every correct answer Four marks will be given
- 3) For Every wrong answer One mark will be deducted

CHOOSE THE CORRECT ANSWER

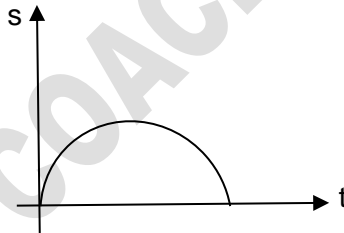
60x4=240

1. A small block slides without friction, down an inclined plane, starting from rest. Let S_n be the distance travelled from $t = (n-1)$ to $t = (n)$, then $\frac{S_n}{S_{n+1}}$
 - 1) $\frac{2n-1}{2n}$
 - 2) $\frac{2n+1}{2n-1}$
 - 3) $\frac{2n-1}{2n+1}$
 - 4) $\frac{2n}{2n+1}$
2. The velocity – displacement graph of a particle moving along a straight line is shown. The most suitable acceleration displacement graph will be

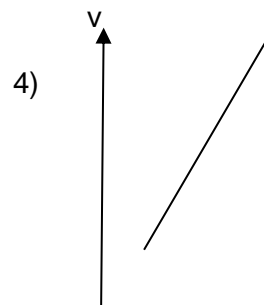
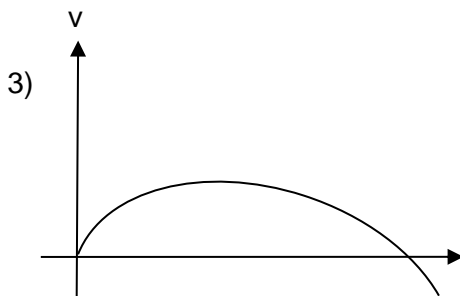
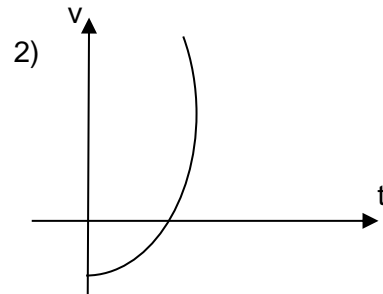
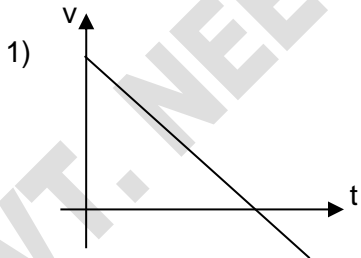




- 3) A bullet fired into a fixed target loses half of its velocity after penetrating 3cm, How much further will it penetrate before coming to rest assuming that it faces constant resistance in motion?
 1) 1.5 cm 2) 1.0 cm 3) 3.0 cm 4) 2.0 cm
- 4) The velocity of a particle is $V = v_0 + gt + ft^2$. Its position is $x=0$ at $t=0$, then its displacement after time ($t=1$) is
 1) $v_0 + \frac{g}{2} + f$ 2) $v_0 + 2g + 3f$ 3) $v_0 + \frac{g}{2} + \frac{f}{3}$ 4) $v_0 + g + f$
- 5) A ball falls from 20 m height on a floor and rebounds to 5m. Time of the conduct is 0.02s. Find acceleration during impact. [$g = 10 \text{ ms}^{-2}$]
 1) 1200 ms^{-2} 2) 1000 ms^{-2} 3) 2000 ms^{-2} 4) 1500 ms^{-2}
- 6) The graph of displacement Vs time is



The corresponding velocity – time graph will be



- t t
- 7 When a ball is thrown vertically with velocity v_0 , it reaches a maximum height of 'h'. If one wishes to triple the maximum height, then the ball should be thrown with velocity
 1) $\sqrt{3} v_0$ **2) $3 v_0$** 3) $9v_0$ 4) $\frac{3v_0}{2}$
- 8 The body A starts from rest with acceleration a_1 . After 2s another body B starts from rest with an acceleration a_2 . If they travel equal distances in 5th second after the start of A, then the ratio $a_1 : a_2$ is equal to
 1) 5:9 2) 5:7 3) 9:5 4) 9:7
- 9 A particle starts from rest and has an acceleration of $2ms^{-2}$ for 10 s. After that, the particle travels for 30 s with constant speed and then undergoes a retardation of $4ms^{-2}$ and comes back to rest. The total distance covered by the particle is [$g = 10ms^{-2}$]
 1) 650 m **2) 700 m** 3) 750 m 4) 800 m
- 10 A bus travelling, the first one – third distance at a speed 10 kmph, the next one third at 20 kmph and at last one third at 60 kmph. The average speed of the bus is
 1) 9 kmph 2) 16 kmph 3) 18 kmph 4) 48 kmph
- 11 A rubber ball is dropped from a height of 5m on a plane. On bouncing it rises to 1.8 m. The ball loses its velocity on bouncing by a factor
 1) $\frac{3}{5}$ **2) $\frac{2}{5}$** 3) $\frac{16}{25}$ 4) $\frac{9}{25}$
- 12 A body dropped from top of a tower falls through 40 m during the last two seconds of its fall. The height of tower is [$g = 10ms^{-2}$]
 1) 60 m **2) 45 m** 3) 80 m 4) 50 m
- 13 A particle moves in straight line covers half the distance with speed of $3ms^{-1}$ the other half of the distance is covered in two equal time intervals with speed of $4.5ms^{-1}$ and $7.5ms^{-1}$, respectively. The average speed of the particle during this motion is
 1) $4.0ms^{-1}$ 2) $5.0ms^{-1}$ 3) $5.5ms^{-1}$ 4) $4.8ms^{-1}$
- 14 A drunkard takes a step of 1m in 1 second. He takes 5 seconds steps forward and 3 seconds steps backwards and so on. The time taken by him to fall in a pit 13m away from the starts is
 1) 26 s **2) 31 s** 3) 37 s 4) 41 s
- 15 A particle is moving along a circle such that it completes one revolution in 40 s. In 2 minutes 20 s the ratio $\frac{|displacement|}{distance}$ is
 1) 0 **2) $\frac{1}{7}$** 3) $\frac{2}{7}$ 4) $\frac{1}{11}$
- 16 The Heaviest particle is
 1) Meson 2) Neuron 3) Proton 4) Electron
- 17 Which has the highest ionising power
 1) α rays 2) β rays 3) γ rays 4) all of these
- 18 The radius of second Bohr orbit
 1) 0.053 nm 2) 0.0534 nm 3) 0.053 X 4 nm 4) 0.053 X 20 nm
- 19 The spectrum of He^+ is expected to be similar to that of
 1) H 2) Li^+ 3) Na 4) He
- 20 The metal which gives photo electron most easily in
 1) Li 2) Na 3) Ca 4) Cs
- 21 The ratio of radius of 3rd and 4th Bohr orbit in hydrogen atom is
 1) 3:4 2) 3:8 3) 9:16 4) 8:9
- 22 The total number of nodes are given by
 1) l 2) $n-1$ 3) $n-l-1$ 4) $n-l$
- 23 The orbital angular momentum of a 'p' electron is given as
 1) $\frac{h}{\sqrt{2\pi}}$ 2) $\sqrt{3} \frac{h}{4\pi}$ 3) $\sqrt{\frac{3}{2}} \frac{h}{\pi}$ 4) $\frac{\sqrt{6} h}{2\pi}$
- 24 The radius of the atom is of the order of

- 1) 10^{-10}cm 2) 10^{-13}cm 3) 10^{-15}cm 4) 10^{-8}cm
- 25 The total spin resulting from a ' d^7 ' configuration
 1) $\pm \frac{1}{2}$ 2) ± 2 3) ± 3 4) $\pm \frac{3}{2}$
- 26 If ionization energy of 'H' atom is 13.6V than ionization energy of He^+ ion is
 1) 13.6 ev 2) 27.2 ev 3) 6.8 v 4) 54.4 ev
- 27 The quantum number for the first electron in an atom are $n=3, l=1, m= -1$ the atom is
 1) Al 2) Si 3) Mg 4) C
- 28 Splitting of spectral lines under the influence of electrical field is
 1) Stark effect 2) Zeeman effect 3) Photo electric effect 4) None of these
- 29 What will be the longest wave length is Balmer series of spectrum
 1) 546 nm 2) 656 nm 3) 566 nm 4) 556 nm
- 30 The uncertainty in momentum of an electron is $1 \times 10^{-5} \text{ kg m/s}$. The uncertainty in its position is $h=6.62 \times 10^{-34} \text{ kgm}^2/\text{s}$
 1) $5.27 \times 10^{-30} \text{ m}$ 2) $1.05 \times 10^{-26} \text{ m}$ 3) $1.05 \times 10^{-28} \text{ m}$ 4) $5.25 \times 10^{-28} \text{ m}$
- 31 Find out the incorrect statement regarding growth
 1) Increase in body mass is considered as growth
 2) Growth can be taken as a defining property of living organisms
 3) Growth & reproduction are mutually exclusive events
 4) Growth is a characteristic of living systems
- 32 Find out the correct pair

1) yeast	budding
2) Planaria	Fragmentation
3) Amoeba	Conidia
4) Algae	Regeneration

- 33 _____ affects reproduction in seasonal breeders both plants & animals.
 1) Environment 2) metabolism 3) photoperiod 4) chemical reaction
- 34 Which one of the following is common to multicellular fungi, the filamentous algae & the protonema of mosses?
 1) mode of nutrition 2) Multiplication by fragmentation
 3) Diplontic life cycle 4) Members of kingdom plantae
- 35 Study of diversity of organisms & their comparative & evolutionary relationship is called
 1) Taxonomy 2) Classification 3) Systematics 4) Phylogeny
- 36 In taxonomy the first step is
 1) Characterisation 2) Identification 3) Nomenclature 4) Classification
- 37 Find out the incorrect statement about taxonomic key
 1) Based on set of contrasting characters
 2) Generally analytical in nature
 3) Same taxonomic key can be used for different taxonomic categories
 4) Used for the identification of both plants & animals
- 38 Which of the following statement is correct with regard to taxonomic hierarchy?
 1) Contains 7 obligate categories & about 21 intermediate categories
 2) First given by Linnaeus who introduced four ranks
 3) Genus is reproductively isolated, thus genetically closed system
 4) Phylum is the highest category
- 39 *Mangifera indica* belongs to family & class

1) Anacardiaceae	Dicotyledonae
2) Anacardiaceae	Poales
3) Poaceae	Sapinales
4) Anacardiaceae	Monocotyledonae

- 40 Mammals, animals & dogs represent
 1) Same taxa at same levels
 2) same taxa at different levels
 3) Different taxa at same levels
 4) Different taxa at different levels
- 41 I am an Housefly find out my correct sequence of class, order & family
 1) Insecta, Muscidae, Musca
 2) Insecta, Musca, Diptera
 3) Diptera, Insecta, Muscidae
 4) Insecta, Diptera, Muscidae
- 42 The two components of Binomial nomenclature
 1) Generic name & specific epithet
 2) Generic name & taxa
 3) Taxon & specific epithet
 4) Taxa & taxon
- 43 The keys are based on the contrasting characters generally in a pair called _____
 1) Dimer 2) Couplet 3) Lead 4) Taxon
- 44 _____ serves as quick referral systems in taxonomical studies
 1) Key 2) Botanical gardens 3) Herbarium 4) Index
- 45 Match the following & find out the correct option

A) kew garden	i) Howrah		
B) Indian Botanical Garden	ii) England		
c) National Botanical Research Institute	iii) New Delhi		
	A	B	C
1)	i	iii	ii
2)	ii	i	iii
3)	i	ii	iii
4)	iii	ii	i

- 46 Tissue level of Organisation is seen in
 1) Coelenterata 2) Porifera 3) Platyhelminthes 4) Echinodermata
- 47 When any plane passing through the central axis of the body divides the organism into two identical halves, the organism is called.
 1) radially symmetrical 2) bilaterally symmetrical
 3) asymmetrical 4) metamerically segmented.
- 48 Match the following and select the correct answer

Column –I

- A. Choanocytes
 B. Cnidoblasts
 C. Flame cells
 D. Nephridia
 E. Comb plates

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

Volumn –II

- i) Platyhelminthes
 ii) Ctenophora
 iii) Porifera
 iv) Coelenterata
 v) Annelida

- D- (v) E-(iii)
 D- (v) E -(iii)
 D -(ii) E -(iv)
 D- (v) E- (ii)

- 49 Closed type of Circulatory system present in
 1. Annelida and Arthropoda

2. Arthropoda and Mollusca

3. Annelida and cephalopoda

4. Mollusca and Echinodermata

50 Which one of the following animal phyla, does not possess a coelom ?

1. Platyhelminthes

2. Annelida

3. Mollusca

4. Echinodermata

51 In which one of the following options, the genus, its characters and phylum are correctly matched ?

genus	Characters	phylum
1. Ascaris	(i) Pseudocoelom (ii) Males and females distinct	Aschelminthes
2. Taenia	(i) Endoparasitic (ii) flame cells are present	Ctenophora
3. Hydra	(i) Cnidoblasts are present (ii) Triploblastic	Cnidaria
4. Nereis	(i) It is Aquatic (ii) It has lateral appendages	Arthropoda

52 Which of these statements are incorrect ?

(i) Ctenophores are exclusively marine

(ii) Aschelminthes are monoecious

(iii) Bioluminescence is well marked in ctenophores

(iv) Notochord is a red – like structure which is derived from the Ectoderm

1) (i) & (ii)

2. (iii) & (iv)

3) (ii) & (iii)

4. (ii) & (iv)

53 Match the following and choose the Correct option

I		II	
A. Physalia		i) Sea Anemone	
B. Meandrina		(ii) Brain Coral	
C. Gorgonia		(iii) Sea fan	
D. Adamsia		(iv) Portuguese man of war	
1. A. (iii)	B (ii)	C (i)	D (iv)
2. A (iv)	B (iii)	C (ii)	D (i)
3. A (iv)	B (ii)	C (iii)	D (i)
4. A (ii)	B (iii)	C (i)	D (iv)

54 Which of the following traits is not shared by both sea Anemones and jelly fish?

1) A medusa as the dominant stage in the life – cycle

2) Possession of a gastro vascular cavity

3) Sexual reproduction

4) Nematocysts present on the tentacles

55 Identify the correct characteristics of porifera

(i) Commonly known as sea walnuts

(ii) Presence of Ostia and collar cells

- (iii) Exhibit tissue level of characteristics (iv) The body is supported by spicules
 (v) Contains cnidocytes which are used for defence, anchorage and for the capture of prey
- 1) (ii) and (iv) only 2) (i), (ii) & (iii) Only
 3) (iv) and (v) only 4) (iii) & (iv) only
- 56 Which one of the following groups of animals reproduced only by sexual means?
 1. Porifera 2. Cnidaria
 3. Protozoa 4. Ctenophora
- 57 S: Annelids are metamerically segmented
 R: Annelids are Eucoelomates
- (1) Both **S&R** are true and **R** is the correct explanation of **S**
 (2) Both **S&R** are true but **R** is not the correct explanation of **S**
 (3) **S** is true but **R** is not true
 (4) Both **S** and **R** are not true
- 58 Which of the following represents both marine and fresh water species?
 1) Cnidaria 2) Cephalochordata 3) Ctenophora 4) Echinodermata
- 59 Which one of the following is not a characteristic of phylum Annelida?
 1) Closed circulatory system 2) Segmentation
 3) Pseudocoelom 4) Ventral Nerve cord
- 60 Sycon belongs to a group of animals which are best described as
 1. multicellular with gastro vascular system
 2. Multicellular having tissue organization but no body cavity
 3. Unicellular
 4. Multicellular without any tissue organisation

ANSWER KEY

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