SAMPLE PAPER 3

Verbal & Non Verbal Reasoning

Q1 . If " * " means "addition" ; " # " means "subtraction" ;
" @ " means "division" ; "^" means "multiplication"
then what will be the value of the following expression?

12#12 ^ 28@7*15

Then which of the following is correct ?

(a) -30 (b) -15
(c) 15 (d) -21

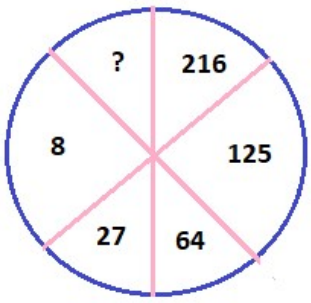
Q2. Pointing out a person Vincent said, "He is the son of the woman who is the mother of the sister of my mother's husband. Now how is this person related to Vincent.

(a) Nephew (b) Uncle
(c) Brother (d) Grandfather

Q3. BMK is related to DQQ in the same way OTC is related to

(a) GHJ (b) QHJ
(c) QXJ (d) JHG

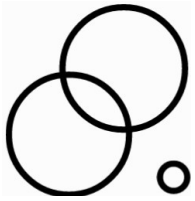
Q4. Find the missing number :

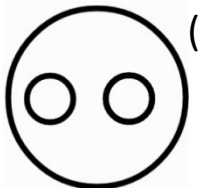


(a) 3 (b) 124
(c) 389 (d) 1

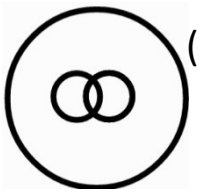
Q5. Which of the following Venn diagram best represents the relationship amongst

"HOUSE , CUPBOARD and CLOTHES "

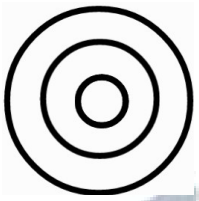
(a) 



(b)



(c)



(d)

Case Based Study

Direction : Read the given passage and answer Q6 to Q7

PASSAGE-I :

A PSLV rocket of mass 'M' moving with velocity '**v**' in space but suddenly it explodes and breaks into two pieces.

After explosion , a mass '**m**' of spacecraft is left stationary.

The velocity of the other part is :

Q6. Choose the correct option for the velocity of other part of rocket:

(a) $\frac{mv}{M-m}$ (b) $\frac{M+m}{Mv}$

(c) $\frac{Mv}{M-m}$ (d) $\frac{Mv}{m}$

Q7. Rocket travelling through the space follows the Newton's law of motion .Which law explains launching of a rocket

(a) First Law of motion (b) Second Law of motion
(c) Third Law of motion (d) All three law of motion

Multiple Choice Question [MCQ]

Q8. The slope of displacement -time curve defines :

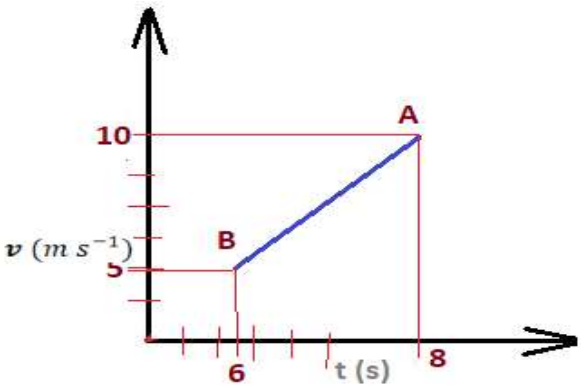
(a) instantaneous velocity
(b) instantaneous speed
(c) instantaneous acceleration
(d) instantaneous retardation

Q9. Choose correct statement for Distance-Time & Displacement-Time graphs

(a) Distance-Time and Displacement-Time graphs of a moving object are similar only when the body moves along a straight line in positive direction.
(b) Distance-Time and Displacement-Time graphs of a moving object are similar only when the body moves along a straight line in positive & negative direction.
(c) Distance-Time and Displacement-Time graphs of a moving object are similar only when the body moves along a circular path in positive direction.

(d) Distance-Time and Displacement-Time graphs of a moving object are similar only when the body moves along a circular path in positive and negative direction.

Q10. If particle moving in varying speed with 't' according to the



curve.

find acceleration between point-A &point-B

(a)5 ms^{-2}

(b) 2.5 ms^{-2}

(c) 25 ms^{-2}

(d) 20 ms^{-2}

Q11. Measure of inertia :

(a) Momentum

(b) Mass

(c) Weight

(d) Centre of gravity

Q12. Choose the correct statement(s) :

(i) Newton's 1st Law of motion depicts only Qualitative analysis of force

(ii) Newton's 3rd Law of motion depicts only Qualitative analysis of force

(iii) Newton's 2nd Law of motion depicts only Quantitative analysis of force

(iv) Newton's 1st Law of motion depicts only momentum analysis for force

(a) only (iii) correct

(b) (i) and (iii) both are correct

(c) (ii) and (iii) both are correct

(d) (i) and (iv) both are correct

Q13. A toy car is moving with velocity 15 m/s . The mass of the toy car is 100 g . Find the momentum of toy car ?

(a) 3.2 kg m/s (b) 2.5 kg m/s

(c) 1.5 kg m/s (d) 0.5 kg m/s

Assertion & Reason

The given below Statement in Assertion(A) is followed by a statement of Reason(R) .

Make the correct choice of that :

(a) Assertion(A) and Reason(R) are both True and Reason is the Correct Explanation

(b) Assertion(A) and Reason(R) are both True but the Reason(R) is not the correct explanation.

(c) Assertion(A) is Correct but Reason(R) is not Correct.

(d) Assertion(A) is not Correct but Reason(R) is Correct.

Q14. Assertion : Acceleration of a body can have a distinct value , even its velocity is zero.

Reason : When we throw a ball its final velocity is zero at the highest point .

Q15. Assertion: Newton's third law can be applicable in Mars.

Reason: Every action between two objects , there is equal and opposite reaction.

Achiever's Section

Direction : Read the given passage and answer Q16 to Q18

PASSAGE-II: Image source: ***https://www.youtube.com/watch?v=ZkVU-bj9bDk***

Here , two astronauts are in the NASA's international Space station(ISS).

We can see in the picture that they are in the floating condition as there is zero gravity in the space.

Answer the following questions regarding Newton's law & Space.

Q16. Choose the correct statement.

(a) Newton's law is applicable in Space including ISS.
(b) Newton's law is applicable in Space but not inside ISS.
(c) Newton's law is applicable in ISS but inside ISS.
(d) Newton's law is not applicable in Space including ISS.

Q17. Is newton's second law applicable in Space & ISS :

(a) No , it is not applicable
(b) Yes , it is applicable
(c) Sometimes applicable and sometimes not applicable
(d) Newtons laws are meaningless in vaccum .

Q18. Why astronauts are floating and feeling weightless ?

(a) ISS is tightly closed

(b) ISS is made with steel.

(c)ISS is made with anti-gravity matter

(d) ISS has zero gravity

Direction : Read the given passage and answer the Q19 to Q20

PASSAGE-III : Train driver saw that many person were throwing stone on standing train.

He jumps to other side to keep himself safe.

Later the driver noticed that glass was broken where stone had hit on the glass.

Q19. Choose the correct statement for the reason ofphenomenon :

(a) Stone was thrown with high speed

(b) Action and reaction forces were equal and opposite on glass

(c) Portion of glass where stone hits ,changes its inertia of rest to motion

(d) The glass was strong to withstand force.

Q20. Which Newton's law of motion is associated with the given phenomenon :

(a) Newton's first Law of motion

(b) Newton's second Law of motion
(c) Newton's third Law of motion
(d) Linear conservation of momentum.

Answer Key														
1.(d)	2.(b)	3.(c)	4.(d)	5.(d)	6.(c)	7.(c)	8.(a)	9.(a)	10.(b)	11.(b)	12.(b)	13.(c)	14.(b)	15.(a)
16.(a)	17.(b)	18.(d)	19.(c)	20.(a)										