

MM : 160
NOTE: There are four sections, Physics, Chemistry, Biology and Maths. Each section carries $\mathbf{1 0}$ questions with four marks each and all are compulsory.

## PHYSICS

1. Which of these is measured using spring balance?
(1) Mass
(2) Pressure
(3) Force
(4) None of above
2. The mechanical wear and tear of the parts which are moving against each other is due to
(1) Heat
(2) Friction
(3) Aberration
(4) None of these
3. Liquid pressure is measured using
(1) Barometer
(2) Manometer
(3) Thermometer
(4) Anemometer
4. Which of the following is used to reduce friction?
(1) Ball bearings
(2) Oil
(3) Grease
(4) All of the above
5. The force of friction depends upon
(1) The mass of object
(2) Nature of surface in contact
(3) Both (1) and (2)
(4) None of these
6. Pressure is
(1) More on small area
(2) Less on large area

## (3) Force per unit area <br> (4) All of these

7. Lubricants are substances that are used
(1) To put out fire
(2) As fuel
(3) To increase friction
(4) To reduce friction
8. With the increase in altitude, the atmospheric pressure
(1) Increases
(2) Decreases
(3) Remains the same
(4) None of these
9. A machine with a bearing between the moving parts experiences
(1) Same friction as without bearing
(2) Less friction as without bearing
(3) No friction at all
(4) None of these
10. Gravitational force is an example of
(1) Force of attraction
(2) Force of repulsion
(3) Non-contact force
(4) Both (1) and (3)

## CHEMISTRY

11. Which of the following is not a constituent of petroleum?
(1) Paraffin wax
(2) Petrol
(3) Lubricating oil
(4) Coke
12. Electric cables are insulated with
(1) Bakelite
(2) PVC
(3) Nylon
(4) Rayon
13. Which of the following is a source of rayon?
(1) Wool
(2) Wood pulp
(3) PET
(4) Silk
14. Which of the following is not found from the destructive distillation of coal
(1) Coke
(2) Coal gas
(3) Coal tar
(4) Petrol
15. Bakelite and Melamine are examples of ....
(1) Thermosetting plastics
(2) Silk
(3) Nylon
(4) Rayon
16. The process of obtaining various components from petroleum is known as $\qquad$
(1) Distillation
(2) Fractional crystallisation
(3) Fractional distillation
(4) liquefaction
17. Silk was discovered in
(1) New Zealand
(2) India
(3) China
(4) Mexico
18. Which one of the following is not a fuel?
(1) Paper
(2) Coal
(3) Carbon dioxide
(4) Biogas
19. Formation of coal took place in
(1) Palaeolithic period
(2) Carboniferous period
(3) Jurassic period
(4) None of these
20. Which one is not a polymer?
(1) Water
(2) Rayon
(3) PVC
(4) Polyethylene

## BIOLOGY

21. Diseases like polio and chickenpox are caused by $\qquad$
(1) bacteria
(2) Fungi
(3) Virus
(4) Worms
22. The dried grains of crops are stored in $\qquad$
(1) Warehouses
(2) Granaries
(3) Silos
(4) Both (2) and (3)
23. Which of these microbes cause malaria
(1) Anopheles Mosquito
(2) Aedes mosquito
(3) Cockroach
(4)Houseflies
24. Which one of the following is the rabi crop?
(1) Wheat
(2) Rice
(3) Maize
(4) None of these
25. A common preservative used in jams and pickles is $\qquad$
(1) Sodium benzoate
(2) Nitric acid
(3) Sodium Chloride
(4) Copper sulphate
26. Which of the following is not a weed?
1) Boerhavia
(2) Cleome
(3) Ocimum
(4) Oxalis
27. Viruses that can infect bacteria are called .....
(1) Algae
(2) Bacteria
(3) Bacteriophage
(4) Protozoa
28. Which of the following is a method of sowing seeds?
(1) Irrigation
(2) Harvesting
(3) Threshing
(4) Broadcasting
29. Which one of these is not a communicable disease?
(1) Common cold
(2) Chickenpox
(3) Tuberculosis
(4) Diabetes
30. Which of the following are leguminous plants?
(1) Peas
(2) Soyabean
(3) Beans
(4) All of these

31. A floor having length of 72 ft . and width of 36 ft . needs to be covered with square tiles of side $2 \frac{1}{4}$ fit. How many tiles will be needed in all?
(1) 512 tiles
(2) 510 tiles
(3) 500 tiles
(4) 520 tiles
32. If $\left(3^{2 x-1}-5\right) \div 2=11$, then the value of $x$.
(1) 1
(2) 2
(3) 3
(4) 4
33. The standard form of $\frac{1}{50,00,00,000}$ is
(1) $2 \times 10^{9}$
(2) $2 \times 10^{-9}$
(3) $5 \times 10^{-8}$
(4) $5 \times 10^{-9}$
34. If $\frac{x}{\sqrt{98}}=\frac{\sqrt{392}}{x}$, then the value of $x$.
(1) 10
(2) 12
(3) 13
(4) 14
35. $4^{2}+?+\ldots .+1^{2}=9^{2}$
(1) $5^{2}$
(2) $6^{2}$
(3) $8^{2}$
(4) $2^{2}$
36. Difference of two perfect cube is 448 . If the cube root of the smaller of the two number is 4 , find the cube root of the larger number :
(1) 5
(2) 6
(3) 7
(4) 8
37. Reema and Soni bought $\left(x^{2}-9\right)$ mangoes. They are divided into $(x+3)$ groups. Each group has three rotten mangoes. How many good mangoes does group have?
(1) $(x-6)$
$(2)(x-5)$
(3) $(x-4)$
$(4)(x-3)$
38. $\left\{\left(4 a^{2}-64\right) \div(2 a+8)\right\}=\ldots .$. ?
(1) $(2 a-4)$
(2) $(2 a-8)$
(3) $2 a$
(4) $2 a^{2}+4$
39. If $x+\frac{1}{x}=3$, then the value of $x^{4}+\frac{1}{x^{4}}=$ ?
(1) 45
(2) 46
(3) 47
(4) 48
40. Factors of $\left(x^{2}+3 x+2\right)$ are
(1) $(x+2)$ and $(x-1)$
(2) $(x+2)$ and $(x+1)$
(3) $(x-2)$ and $(x+1)$
(4) $(x-2)$ and $(x-1)$
