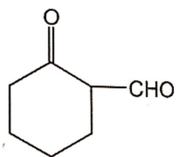


NEW STANDARD ACADEMY

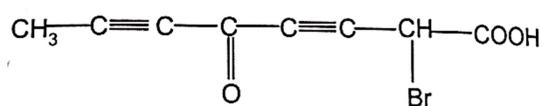
SEMRI KOTHI SUPER MARKET, RAEBARELI
CLASS 11 (Chemistry) DPP (Academy) 02 /12/2024

Give IUPAC name of the following compounds.

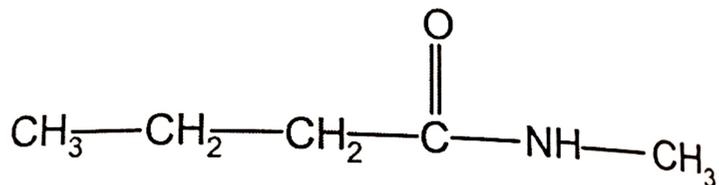
1.



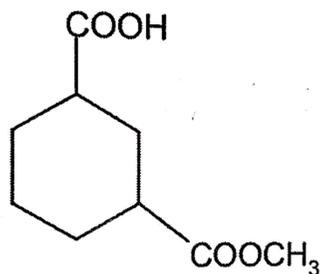
2.



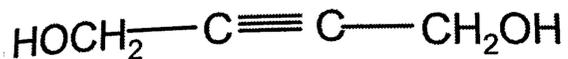
3.



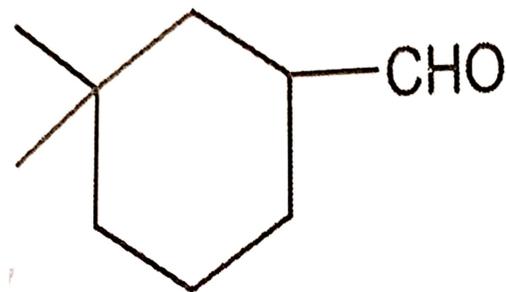
4.



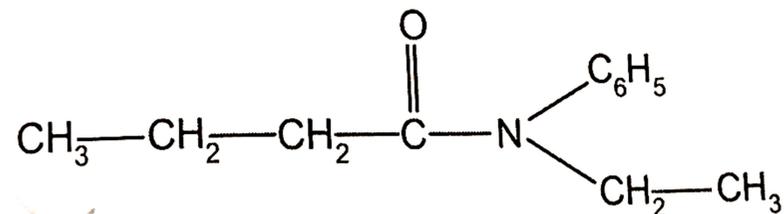
5.
6.



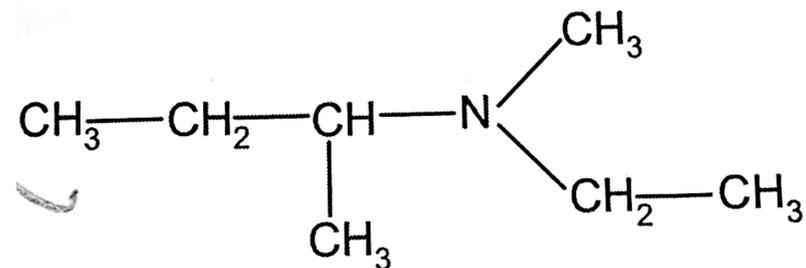
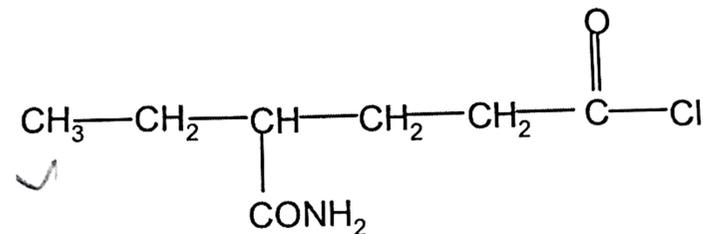
7.



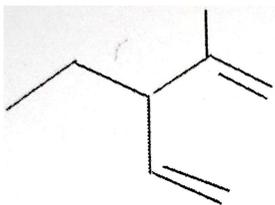
8.



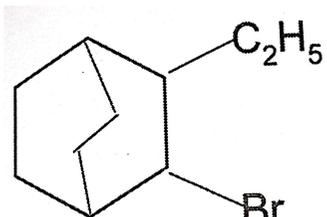
9.



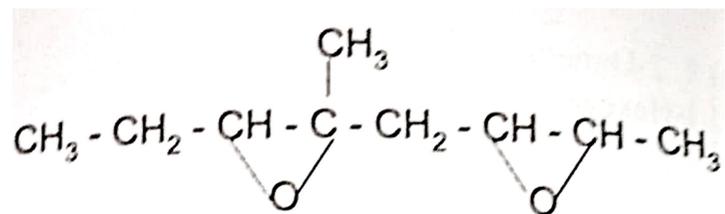
10.



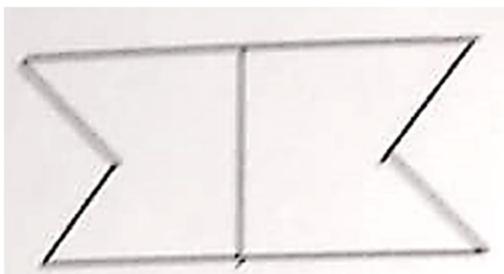
11.



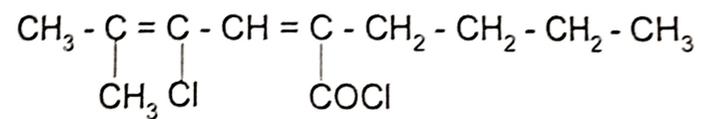
12.



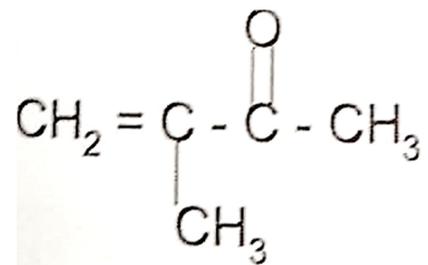
13.



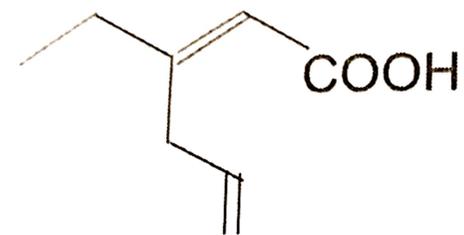
14.



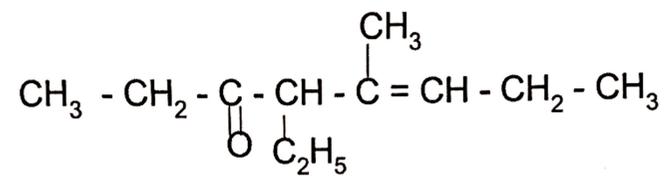
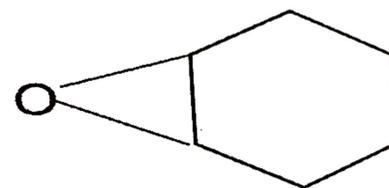
15.



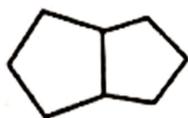
16.



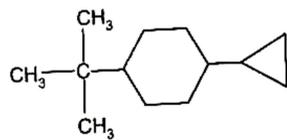
17.



18.



19.



20.

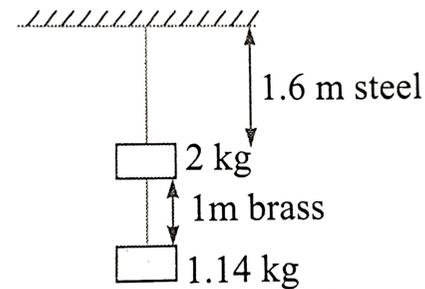


NEW STANDARD ACADEMY

SEMRI KOTHI SUPER MARKET, RAEBARELI

CLASS 11 (Physics) DPP (Academy) 02/12 /2024

1. A body of mass $m = 10\text{kg}$ is attached to one end of a wire of length 0.3 m . The angular speed (in rad s^{-1} with which it can be rotated about its other end in space station (Breaking stress of wire = $4.8 \times 10^7 \text{ Nm}^{-2}$ and area of cross- section of the wire = 10^{-2} cm^2) is _____
2. Two separate wires A and B are stretched by 2 mm and 4 mm respectively, when they are subjected to a force of 2 N . Assume that both the wires are made up of same material and the radius of wire B is 4 times that of the radius of wire A. The length of the wires A and B are in the ratio of a: b. Then a/b can be expressed as $1/x$ where x is _____.
3. Wires W_1 and W_2 are of same material having the breaking stress of $1.25 \times 10^9 \text{ N/m}^2$. W_1 and W_2 have cross- sectional area of $8 \times 10^{-7} \text{ m}^2$ and $4 \times 10^{-7} \text{ m}^2$ respectively. Masses of 20 kg and 10 kg hang from them as shown in the figure. The maximum mass that can be placed in the pan without breaking the wires is _____ kg. (Use $g = 10\text{ m/s}^2$)
4. A metal wire of length 0.5 m and cross-sectional area 10^{-4} m^2 has breaking stress $5 \times 10^8 \text{ N m}^{-2}$. A block of 10 kg is attached at one end of the string and is rotating in a horizontal circle. The maximum linear velocity of block will be _____ m s^{-1}
5. A steel rod has a radius of 20 mm and a length of 2.0 m . A force of 62.8 kN stretches it along its length. Young's modulus of steel is $2.0 \times 10^{11} \text{ N/m}^2$. The longitudinal strain produced in the wire is _____ $\times 10^{-5}$
6. A uniform heavy rod of mass 20 kg Cross sectional area 0.4 m^2 and length 20 m is hanging from a fixed support. Neglecting the lateral contraction, the elongation in the rod due to its own weight is $x \times 10^{-9} \text{ m}$. The value of x is _____
(Given: Young's modulus $Y = 2 \times 10^{11} \text{ N m}^{-2}$ and $g = 10\text{ m s}^{-2}$)
7. A string of area of cross-section 4 m^2 and length 0.5 is connected with a rigid body of mass 2 kg . The body is rotated in a vertical circular path of radius 0.5 m . The body acquires a speed of 5 m/s at the bottom of the circular path.



8. A certain pressure 'P' is applied to 1 litre of water and 2 litre of a liquid separately. Water gets compressed to 0.01% whereas the liquid gets compressed to 0.03% . The ratio of Bulk modulus of water to that of the liquid is $3/x$. The value of x is _____
9. If average depth of an ocean is 4000 m and the bulk modulus of water is $2 \times 10^9 \text{ Nm}^{-2}$, then fractional compression $\Delta V/V$ of water at the bottom of ocean is $\alpha \times 10^{-2}$. The value of α is _____ (Given, $g = 10\text{ m s}^{-2}$, $\rho = 1000\text{ kg m}^{-3}$)
10. Water rises in a capillary tube but mercury falls in the same tube. Why?
11. Find out the dimensions of – efficient of viscosity?
12. If the rate of flow of liquid through a horizontal pipe of length l and radius R is Q . What is rate of flow of liquid if length and radius of tube is doubled?
13. Find the work done in blowing a soap bubble of surface tension 0.06 N/m from 2 cm radius to 5 cm radius?
14. If a big drop of radius R is formed by 1000 small droplets of water, then find the radius of small drop?
15. At what depth in an ocean will a tube of air have one – fourth volume it will have on reaching the surface? Given Atmospheric Pressure = 76 cm of Hg and density of Hg = 13.6 g/cc ?
16. An object floats on water with 20% of its volume above the water time. What is the density of object? Given Density of water = 1000 kg/m^3 .
17. What should be the pressure inside a small air bubble of 0.1 mm radius situated just below the water surface tension of water = $7.2 \times 10^{-2} \text{ N/m}$ and atmospheric pressure = $1.013 \times 10^5 \text{ N/m}^2$?
18. If the radius of a soap bubble is r and surface tension of the soap solution is T . Keeping the temperature constant, what is the extra energy needed to double the radius of soap bubble?

NEW STANDARD ACADEMY

SEMRI KOTHI SUPER MARKET, RAEBARELI

CLASS 11 (BIOLOGY) DPP (Academy) 02/12/2024

1. What is polycythemia ?
2. Name the phagocytic WBCs.
3. Which step in blood clotting will not occur in the absence of vitamin K ?
4. What is tachycardia ?
5. Define the following terms and give their location :
(a) Purkinje fiber (b) Bundle of His
6. State the functions of the following in blood :
(a) Fibrinogen (b) Globulin
(c) Neutrophils (d) Lymphocytes
7. Which white blood cells release histamine and promotes inflammation ?
8. Define cardiac output and stroke volume.
9. Define bradycardia
10. What are the parts of the conducting system of heart ?
11. Why is the human heart described as myogenic? Where is its pacemaker and what is it called ?
12. Differentiate between Basophils and Eosinophils
13. What is the significance of hepatic portal system in the circulatory system ?
14. Write the features that distinguish between the plasma and serum
15. Briefly describe the following :
(a) Anaemia (b) Hypertension
16. What does an ECG measure? Name the waves produced by an ECG and state what events occur during each wave.
17. What effect do parasympathetic stimulation and sympathetic stimulation have on heart rate?
18. Name the three layers of a blood vessel. What kinds of tissue are in each layer?
19. Define the terms interstitial fluid and lymph. How do these fluids relate to blood plasma?
20. Using a flow diagram describe the sequence of events that occur during cardiac cycle?