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Buddhanagar, Kathmandu

2nd TERMINAL EXAMINATION - 20 77

Name of the student: Anuj Sapkota Class: 8

Section: Gallica Roll No: 6 Subject: Science Date: 12/9/2077

Symbol No.: Symbol No. In words:

To be filled by Examiner:

Obtained Marks: Marks in words:

Date: Examiner:

Start from here:

1.

a.

→ Soln,

Here,

Power (P) = 10W

Work (W) = 550J

Time (t) = ?

We know,

$$P = \frac{W}{t}$$

or, $10W = \frac{550J}{t}$

or, $10W \times t = 550J$

or, $t = \frac{550J}{10W}$

$\therefore t = 55s$

$\therefore$ Time taken is 55s.

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Name: Anuj Sapkota
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1(b) →Soln,
Here,
mass(m) = 20kg
height(h) = 2m
Potential Energy(PE) = ?
We know,
$PE = mgh$
$= 20kg \times 9.8m/s^2 \times 2m \quad [\because g = 9.8m/s^2]$
$= 392J$
∴ The potential energy is 392J.

1(c) →Soln,
Here,
height(h) = 2m
Force(F) = 25N
Work done(W) = ?
We know,
$W = F \times d$
or, $W = F \times h$
$= 25N \times 2m$
$= 50J$
∴ The work done is 50J.

→

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Section: Gallica Subject: Science

1(d) → Soln,

Here,

Mass (M) = 100kg

Volume (V) = $5m^3$

density (d) = ?

We know,

(1) $d = \frac{m}{v}$

$= \frac{100kg}{5m^3}$

$\therefore d = 20 kg/m^3$

Now,

Relative density = $\frac{\text{density of the object}}{\text{density of pure water at } 4^\circ C}$

$= \frac{1\cancel{20kg/m^3}}{50\cancel{1000kg/m^3}}$

$= \frac{1}{50}$

$\therefore$ Relative density = 0.02

$\therefore$ The density of the object is $20kg/m^3$ and relative density is 0.02.

~~1(e) → Soln,~~

~~Here,~~

→

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Section: Gallica Subject: Science

1(e) Soln,

Here,

height(h) = 8m

Pressure(P) = ?

we know,

$P = hdg$ ~~dgh~~

$= 1000 kg/m^3 \times 9.8 m/s^2 \times 8m$ [∵ density of pure water at 4°C = $1000 kg/m^3$]

$= 78400 Pa.$

∴ The pressure exerted at the bottom of the tank is 78400Pa.

(2)

→ 1 Joule work is a work done by applying 1N force which covers 1m distance.

→ The SI unit of power is Watt (W).

(3) → Work is a scalar quantity, because it has only magnitude no direction.

(4) → Kinetic energy is the energy possessed by a body due to its motion.

→ Potential energy depends upon;

- mass - height - acceleration due to gravity

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Section: Gallica Subject: Science

5. (a) Kinetic Energy
(b) Potential Energy

6.
→ The situation in which force is applied on a body but no work is done is: when a boy is trying to push a big wall.

7. (i) They are non-malleable.
(ii) They are non-ductile
(iii) They are bad conductor of heat and electricity.
(iv) They are placed in the right side of the modern periodic table.

8. → Silver and copper are called coinage metals because they were used to make coins in ancient period.

9) → Aluminium is used to manufacture aircrafts because it is a light, malleable and rusting free metal and it is also not affected by air and water.

10.) → The properties of sulphur are;
- It is a yellow crystalline solid.
- It is tasteless and odourless.

→ Uses of sulpheur are;
- It is used for making sulphuric acid.
- It is used for making gunpowder, matches, etc.

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11.) Silver: Valency: 1
Atomic no.: 47
Period: 5
Ore: Argentite
Silicon: Valency: 4
Atomic no.: 14
Period: 3
Ores: Silica sand

12.)

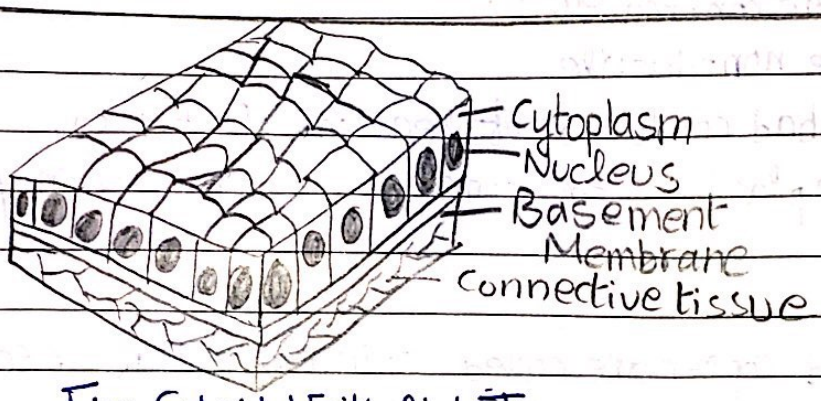

Fig: Cuboidal Epithelial Tissue

13.) → Tissue is a group of cells having common functions.
→ Liquid connective tissue is blood.

14.) → Location of Columnar epithelial tissue: Found in lining layer of stomach, intestine, etc.
→ Function of columnar epithelial tissue: Absorption and secretion.
→ Location of Glandular epithelial tissue: Found in various endocrine and exocrine glands.

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Name: Anuj Science Class: 8

Section: Gallica Subject: Science

-> ~~toe~~ Function of glandular epithelial tissue: Secretes various chemicals like enzymes, hormones, sweat, saliva, and other digestive juices.

15) -> Plants doesnot grow tall if its tip is ~~cut~~ cut off because division of cells to produce new cells takes place only at the ~~tip of a plant~~.

16)

Meristematic tissue	Permanent Tissue
- Its cell wall is thin and elastic.	- Its cell wall may be thick or thin.
- Intercellular spaces are absent.	- Intercellular spaces are ~~off~~ often present.

17) -> Any two importance of atmospheric pressure are:
- It helps to fill ink in a fountain pen.
- It helps to fill medicine in a syringe.

18) -> Density is mass per unit volume of an object.
-> The value of standard atmospheric pressure is ~~76mmHg~~ 760 mmHg.

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19. → Deriving the equation $P = dgh$,

We know,

According to the definition of pressure,

$$P = \frac{f}{a}$$

$$= \frac{w}{a} \quad [\because w = f]$$

$$= \frac{m \times g}{a} \quad [\because w = m \times g]$$

$$= \frac{d \times v \times g}{a} \quad \left[\because d = \frac{m}{v} \text{ or, } m = d \times v\right]$$

$$= \frac{d \times l \times b \times h \times g}{a} \quad [\because v = l \times b \times h]$$

$$= \frac{d \times a \times h \times g}{a} \quad [\because l \times b = a]$$

$$= dhg$$

$\therefore P = dgh$

~~Dervi~~ Derived //

20 → A gas balloon bursts when it reaches to high altitude because ~~the density of~~ the gas balloon can resist the atmospheric pressure of the high altitude.