



Winter Holiday Assignment 2019-20

Science and Technology

Grade 9

Section A – Physics

1. Two balls of masses 'm' each are raised to height 'h' and '2h' respectively. What will be the ratio of their potential energies?
2. A body of mass 2kg is thrown up with a speed of 25m/s. Find its maximum potential energy.
3. A truck of mass 1800kg is moving with a speed 54km/h. When brakes are applied, it stops with uniform negative acceleration at a distance of 200m. Calculate the force applied by the brakes of the truck and the work done before stopping.
4. Calculate the electricity bill amount for a month of may, if 5 bulbs of 40 W for 5 hrs, 4 tube lights of 60 W for 6 hrs, a TV of 150 W for 4 hrs, a washing machine of 600 W for 2 hrs are used per day. The cost per unit is 0.28 dirhams.

5. *Research report*

In response to unsustainable consumption increases, the UAE government has begun crafting policies to make the region far more efficient in its use of resources. What are the steps taken by the government of UAE to conserve the energy resources. Prepare a report on it.

SECTION B –CHEMISTRY

1. Write the formula for the following:-

Cation / anion	Cl ⁻	CO ₃ ²⁻	PO ₄ ³⁻
Na ⁺			
Mg ²⁺			
Al ³⁺			
NH ₄ ⁺			

2. Write the formulae for the following and calculate the molecular mass for each of them.
(a) Caustic potash (b) Baking powder (c) Lime stone (d) Caustic soda
(e) ethanol (f) common salt
3. The most commonly seen life style disease in UAE is diabetic. Lot of intake of sugar in the form of chocolates, cold drinks etc. are one of the reasons for this. Which compound is in excess in blood in diabetic patients? Name and write the chemical formula and calculate the molecular mass.
How will you make children aware not to take cold drinks?

BIOLOGY

1. Conduct a survey in your neighbourhood to find out what the three most common diseases are. Suggest three steps that could be taken by your authorities to bring down the incidence of these diseases.

.My Identity Activity (My community is My Identity)

2. What are the immunisation programmes available at the health centres in the UAE. Is it useful to society? Support your answer.

ENGLISH

1) Select a short story written by any of the UAE writers. Read the story and find out the theme. Prepare a brief sketch of characters and the setting of the story.

https://en.wikipedia.org/wiki/List_of_Emirati_writers

<https://www.goodreads.com/shelf/show/uae>

2) Analyse the poem *On Killing a Tree* from your textbook. Prepare a write up on the contribution of the UAE government in preserving nature.

Mathematics

1. Simplify by rationalising the denominator.

$$\frac{\sqrt{5} + \sqrt{2}}{\sqrt{5} - \sqrt{2}} + \frac{\sqrt{5} - \sqrt{2}}{\sqrt{5} + \sqrt{2}}$$

2. A hemispherical dome of a mosque in Al Ain needs to be painted. If the circumference of

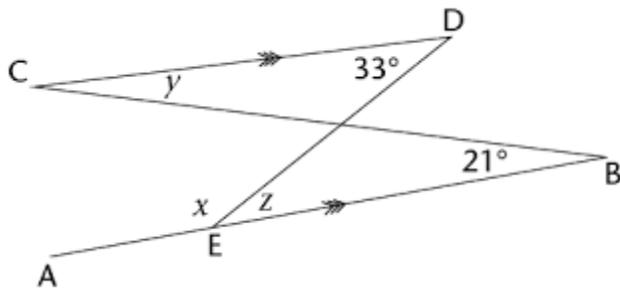
the base of the dome is 17.6 m , find the cost of painting it, given the cost of painting is Dh50 per sq.m.

3. If line $kx+4y=12$, passes through the point $(3,-2)$, find k .

4. Evaluate by using a suitable identity

a) 999^3 b) $-32^3 + 18^3 + 14^3$

5. If $CD \parallel AB$, find x, y and z



6. Find the area of a triangle whose perimeter is 180cm and its two sides are 80cm and 18 cm. Calculate the altitude of the triangle corresponding to its shortest side.

7. Draw the graph of linear equation $2x + y = 7$. From the graph ,check whether $(1,-2)$ is a solution of this equation.

8. AP and BQ are the bisectors of two alternate interior angles formed by the intersection of a transversal t with parallel lines l and m . Show that $AP \parallel BQ$.

Grade 9 Social Studies

Add some more (at least 5) medicinal plants to the list given below (Text book page No: 48) and find out at least 10 medicinal plants found in UAE and write the uses of these plants.

MEDICINAL PLANTS

India is known for its herbs and spices from ancient times. Some 2,000 plants have been described in Ayurveda and atleast 500 are in regular use. The World Conservation Union's Red list has named 352 medicinal plants of which 52 are critically threatened and 49 endangered. The commonly used plants in India are:

- Sarpagandha** : Used to treat blood pressure; it is found only in India.
Jamun : The juice from ripe fruit is used to prepare vinegar which is carminative and diuretic, and has digestive properties. The powder of the seed is used for controlling diabetes.
Arjun : The fresh juice of leaves is a cure for earache. It is also used to regulate blood pressure.
Babool : Leaves are used as a cure for eye sores. Its gum is used as a tonic.
Neem : Has high antibiotic and antibacterial properties.
Tulsi Plant : Is used to cure cough and cold.
Kachnar : Is used to cure asthma and ulcers. The buds and roots are good for digestive problems.

Identify more medicinal plants in your area. Which plants are used as medicines by local people to cure some diseases?

Source : Medicinal Plants by Dr. S.K. Jain, 5th edition 1994, National Book Trust of India

Rubrics

Content	3
Presentation	3
neatness	3
Punctuality	1
Total	10

