## Pasteur Secondary School, Oran.

$3^{\text {RD }}$ Year Ex Sces -M -TM -EG.

## Second Term Exam.

Wed, Feb $24^{\text {th }}, 16.15 \mathrm{~h}-17 \mathrm{~h}$.

Part One:Reading. ( 15 pts)
A) Comprehension. (08Pts)

Read the text carefully and do the activities.
What is a Galaxy? The short answer is that it is a system of stars - each of which is a sun. Our Sun, together with the Earth and the planets, belongs to a galaxy made up of around 100 thousand million stars. It is a flattened system, and if we look along its main plane we see many stars in almost the same direction producing the lovely band of light which we call the Milky Way.

It is widely supposed that all the galaxies are receding from us, so that the entire universe is expanding, but this is not the whole story. The galaxies inside a definite group moving randomly with respect to each other, each group of galaxies is racing away from each other, so that the 'expanding universe' concept is correct. During the 1920s the American astronomer Edwin Hubble (after whom the Space Telescope is named) used spectroscopic methods to show that the galaxies really are external systems rather than parts of the Milky Way, and also that the greater the distance of a galaxy, the faster it is moving away from us. This does not mean that we are in a privileged position; the expansion is universal in every sense of the term.

Galaxies are of many kinds. Some are spiral in form like wheels of fire; others are elliptical, some more or less spherical, others irregular in outline. Our Milky Way is a barred spiral, although the bar itself is not very obvious, and of course measurements of the exact shape are not easy to make simply because we lie inside the system, around 26,000 light-years from the centre. The centre itself seems to contain a massive Black Hole and this is also true for most large systems. The Milky Way, like other spirals, is rotating; the Sun takes about 225 million years to complete one circuit - a period often called the cosmic year. One cosmic year ago, even the dinosaurs had yet to make their entry. It is interesting to speculate about what conditions will be like one cosmic year hence...

We have found out a great deal about the galaxies, but we cannot claim that our knowledge is at all complete, and there are so many of them that even classification is a problem. The universe, with its majestic star-cities, is indeed a wonderful place.

Systems of Stars (Sir Patrick Moore for Galaxy Zoo)

1. Are these statements true or false? Write $T$ or $F$ next to the letter corresponding to the statement.
a. An arrangement of stars makes up a galaxy.
b. Edwin Hubble proved that the galaxies are included into the Milky Way.
c. There is only one category of galaxies.
d. Today, we know everything about galaxies.
2. In which paragraph is it mentioned:
a. The cause of the extension of the universe is the movement of galaxies.
b. Too much information were gathered about galaxies.
3. Answer the following questions according to the text.
a. Are the galaxies close to each other?
b. Does the sun move? Justify your answer.
c. What does the writer mean by 'star-cities'?
4. Who or what do the underlined words refer to in the text?
a. -each of which... §1
b. ... after whom the Space ... §2
c. ... this is ... §3
5. Choose the correct answer. The text is:
a. Descriptive
b. Argumentative
c. Expository.
B) Text Exploration.(07Pts)
6. Find in the text words or phrases closest in meaning to the following:
a. Preferable. §2
b. meaning. §2
c. guess.§3
7. Complete the following chart as shown in the example.

|  | Verbs | Nouns | Adjective |
| :---: | :---: | :---: | :---: |
| Example | to measure | measurement | Measurable |
|  | ......................... | System | ................... |
|  | to speculate | ............................... | ............................. |
|  | ................... | ............................. | Complete |

3. Connect each pair of sentences with the word given. Make changes if necessary.
a. The Milky Way is rotating. Other galaxies are rotating too. (Just as)
b. Some galaxies are spiral in form, others are elliptical. ( while)
c. I would be the first one to leave Earth. Life (be) possible on Mars. (if)
4. Re-order the following sentences to make a coherent paragraph.
a. a historic discovery that opens up an entirely new way of studying the cosmos.
b. Massive celestial objects on the move causing space time itself to ripple,
c. A century after being proposed by physicist Albert Einstein,
d. scientists have made the first detection of gravitational waves.
5. Classify the following words according to the pronunciation of their final /S/.
-Stars - galaxies - wheels - Telescopes -measurements - classes.

| $/ \mathrm{Z} /$ | $/ \mathrm{S} /$ | $/ \mathrm{IZ} /$ |
| :---: | :---: | :---: |
|  |  |  |

## Part Two: Written Expression.( 05 Pts)

Choose ONE of the following topics.
Topic One: Use the following notes to describe Planet Venus.

- Goddess of love and beauty -hottest planet - brightest planet : seen even in daylight
- west of the Sun - a year = 262 days - closest to the Earth -smaller than the Earth
- circumference: 7520 miles - no life - no moon
- atmosphere composed of carbon dioxide

Topic Two: One of the most popular questions today is, "What, if we are alone in the universe?" Write an essay of about 120 words to make suppositions about the existence of some form of life on other planets.

| Part <br> One | Mark |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total | Detailed | Answers |  |  |  |  |  |  |  |
| A)1 | 2 |  | a |  |  | b |  | C | d |  |
|  |  |  | T |  |  | F |  | F | F |  |
| 2- | 1 | $0.5 \times 2$ | a $b$ |  |  |  |  |  |  |  |
|  |  |  | $\S 2$ | $\S 4$ |  |  |  |  |  |  |
| 3 | 3 | 1x3 | a-No, they are not. <br> b- Yes. It does.a circuit of 225 million years ... <br> c- Galaxies. |  |  |  |  |  |  |  |
|  |  |  | a.e | ach | b.whom |  | c.th |  |  |  |
| 4 | 1.5 | $0.5 \times 3$ | star |  | Edwin Hubble |  | Black hole |  |  |  |
| 5 | 0.5 |  | c- expository |  |  |  |  |  |  |  |
|  | 1.5 | $0.5 \times 3$ | a- Privileged |  |  |  |  | c- speculate |  |  |
| 2 | 1.5 | $0.25 \times 6$ | Verbs |  |  | Nouns |  | Adjective |  |  |
|  |  |  | to systemize |  |  | ////////// |  | systematic |  |  |
|  |  |  | /////////// |  |  | speculation |  | speculating |  |  |
|  |  |  | to complete |  |  | completion |  | ////////// |  |  |
| 3 | 1.5 | 0.5x3 | a.Just as the Milky Way is rotating, other galaxies are rotating . <br> b.Unlike Some spiral galaxies, others are elliptical in form. <br> c. If life were possible on Mars, I would be the first one to leave Earth. |  |  |  |  |  |  |  |
| 4 | 1 | $0.25 \times 4$ | 1 2 3 4 <br> c d b a |  |  |  |  |  |  |  |
| 5 | $1 . .5$ | $0.25 \times 6$ | /Z/ |  |  |  | /S/ |  | /IZ/ |  |
|  |  |  |  | ars - | wheels |  | -mea <br> - teles | ments S | -galaxies | - classes |


| PART | Topic:1 | Form:3 |
| :--- | :--- | :--- |
| Two | 5 | Content:2 |
|  | Topic:2 | Form:2 |
|  | 5 | Content:3 |

