بسم الله الرحمن الرحيم

Karary University – College of Languages and College of Engineering

Pioneering in English for Engineering Version (II)

First Year – Second Semester – October to December

The last five lectures for Groups [A, B, C, D, E, and F]

Who invented the Computer?

People come to the museum and I give a challenge. Everybody knows who invented the light bulb. Everybody knows who invented the aero-plane. I ask them who invented the computer and how come you don't know?

So one of the things we try to do in the exhibit is to explain why is so difficult to say who invented the computer. My favourite answer is actually Charles Babbage who in 1837 described and invented a computer that we would recognize today as an electronic computer except it was mechanic it's built in mechanical views. The problem was he never built – he was a wonderful inventor but a very bad businessman – and could not figure out how to build his machine. We might have had a computer a hundred years earlier than we actually did in 1840 instead of 1940. Just think about what the internet would look like now if we had a hundred year head start.

The reason why the museum exists is because the computer is a really big deal! For five thousand years of recorded history, there was no augmentation of the human mind. The industrial revolution was all about building machines that augmented the human body. There were engines like steam engines and internal combustion engines. The information revolution is all about inventing machines that augment human mind and there're computers that help us do cognition better.

The computer revolution has happened so fast. Every 10 years of things that we think our modern becomes obsolete. It is really important to preserve the history of how it happened and the people who did it. Museum is as much about stories as it is about objects. In stories are there to inspire the next generation. The people now who will be followers of the computer museum twenty years from now are kids who walk through the museum and learn the stories of the pioneers that came before them.

* **Answer carefully:**

{1} Why the speaker is surprised? ……

{2} Why was that exhibit for? ……..……

{3} Who discovered the computer and when? ……

{4} Which problem faced the inventor? ……..

{5} Justify the museum existence? ……

{6} What happened to computers every decade? ……

{7} How the kids benefit from this museum? ……

{8} What's the general role of museum? …….

{9} How can you explain the word 'Augmentation'? ……..

{10) Compare between the industrial and the information revolutions? ……

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* **Writing Skills:**

The Internet

The internet is everywhere and every time. But some say it has always advantages and others say it has also disadvantages. Discuss this argument.

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Did Carl Benz innovate the Automobile?

The automobile: the main means of transport to cult object. This four–wheeled vehicle has been shaping the lives of entire generations over the last one hundred twenty years whether as a means of transport or as a status symbol.

The dream of freedom and mobility became real, thanks to the vision of one man Carl Benz. On November 25th 1844, the automobile pioneer's born. After university and subsequent work in Kanskhua ended four times, Carl Benz turned freelance. In his house in Manhyme he found a mechanical workshop together with August Ritter. The venture was however not particularly successful. But Carl Benz did not give up. In 1883 he found the company Benz & Co. only one he's financially independent if he's able to devote all his energies to his inventions. In January 1886 he obtained the patent for his vehicle with gas engine; the birth certificate of the automobile. The economic breakthrough of the patent motorcar was however slow to set in. Just when the inventor's threatening to give up, his wife Bertha steps in. In August 1888 Ann Bernard and her husband, she drives to Foretime with her two eldest sons and thus the first petrol station is born. Yen even after Bertha's impressive efforts, it nevertheless takes sometime before the Sails Vivo advent in Co began to rise. With renewed vigor, Benz thought about improving his designs. He solved the initially inter-multiple problem of stirring the front two wheels simultaneously and developed the so-called axial– pivot stirring system.

His principle is still used today. On April 4th 1929 Carl Benz dies. He's 84 years old. The great inventor's late rested in the Lautenberg Cemetery. Three years before his death, the merger of the two most important Gems Automobile companies Benz & Co. and the Diamond Motor Company took place. Carl Benz never lost sight on his goal to motorize road traffic. His belief that it could be realized finally paid off. In contrary to many other pioneers in technology, he lived to see his dream come true; the breakthrough of the Automobile.

* **Give full answers:**

1- Define the automobile? ……

2- When was Carl Benz born? ……

3- What did he do after university? ……

4- With Whom he worked together? ……

* **Grammar Nook:** **Idioms**

An idiom is an expression with a meaning that we cannot guess from the meanings of the separate words: *The* ***idiom*** 'My *cup of tea* is engineering' means my interest. Below are some examples:

When you're ***between hammer and anvil*** means you're in *a dilemma*.

Don't get nervous in the ***build–up to*** the term examination. (A preparation period)

In engineering, one should avoid to ***cut corners***. (Without mastering)

They're ***over the moon*** because of their success. (Happy and delighted)

Don't ***cry for the moon***! (Ask for the impossible)

You have to ***make hay while the sun shines***. (Seize the opportunity)

You have to ***hitch your wagon to a star.*** (Join the successful)

What planet are you on? (Out of reality touch)

Come down to earth and talk like us. (Be realistic

The Wright Brothers and the First Successful Airplane 1903

Wilbur Wright was born on April 16th 1967 in Melville Indiana and Orville Wright on August 19th 1971 in Datin Ohio. Both brothers were pioneers credited with inventing the first plane.

In late 1901 the Wright brothers had gathered the aerodynamic data they needed to build a successful flying machine and in 1902 the Wright brothers had built their latest glider based on this data. They had identified a wing–shape that was efficient producing the expected lift and engineered controls that were responsive. The glider was also used a trailing rotor. Therefore, enabling the Wright brothers to navigate in the air in all three dimensions. Following this success, the next stage for the brothers was powered flight. No manufacturers could provide an engine light enough and powerful enough for their needs. So the brothers had to design and

build their own. The flyer was designed on a bi–plane configuration with a wooden airframe and a wings' span of 12.3 meters or 40 feet 4 inches. The pilot flew on the stomach and the lower wing stirring by moving cradle attached to his hips. This cradle pulled wires which woof the wings and turned the rotor. The Wright flyer won based on their previous glider was set up near Kibi Hoch North Carolina in the United States of America on December 17th 1903 where there was a hill and a good breeze. The first flight lasted 12 seconds travelling 36 meters on 120 feet with Orville piloting. Three more flights were made on that day with Wilbur achieving the best flight covering 255.6 meters or 852 feet in 59 seconds.

The Wright brothers had made history with the first successful flight of a controllable self–propelled heavier than air machine. Over the next few years, the Wright brothers developed new flyers while remaining secret in an attempt to secure patents and contracts

* **Answer in short:**

1- What were the two brothers credited for? ……

2- Where did the Wright brothers come from? ……

3- Why did they gather aerodynamic data? ……

4- What did they discover in 1902? …….

5- Describe the flyer they designed? ……

6- How long the first flight last? ……..

7- Depict the best flight of Wilbur? …….

8- Why did they invent flyers and kept them secret? ……

9- How the brothers made history? ……..

10- What was the problems of all manufacturers? ……

NASA and **Space Elevator**

NASA stands for National Aeronautics and Space Administration. It is the United States Government agency that is responsible for science and technology related to air and world space. The space station was commenced in 1957 with the launch of the Soviet satellite *Sputnik*. The United States government felt as if this was a fundamental shift in the balance of power and was not to be outdone. So NASA was created on at all first before 1958. Now this is not the same as it was any work been done on human or robotic spaceflight before the formation of NASA?

But NASA definitely accelerated the progress and focus. Its first-half profile programme was project Mercury which considered that of human can survive in the space. Following this missed project Gemini was brought to probe knowledge earned from the previous project, culminating into the Apollo programme which brought the United States closer to its national objective of sending humans to the moon which it did accomplish in July 1969 with the Apollo 11 mission.

Relating to this agency, NASA adopted a type of transportation system or device that connects the earth planet surface extending into the space with a tether cable. The design would permit spatial vehicles to traverse along the cable from earth planet surface without rockets.

With the deployment of this tether, climbers could occasionally ascend the tether to space by mechanical instrument, releasing their cargo to orbit. Climbers could also descend the tether to return cargo to the surface from orbit.

The notion of a tower transiting out to the spatial geosynchronous orbit was primarily presented in 1895 by Konstantin Tsiolkovsky. The idea was developed through the twentieth century to twenty first century and currently since 2018 Japan's Shizuoka University researchers inaugurated a mini–elevator with a double–cube sats and a tether as a test bed for a tremendous framework.

*** Read and summarize the text above:**

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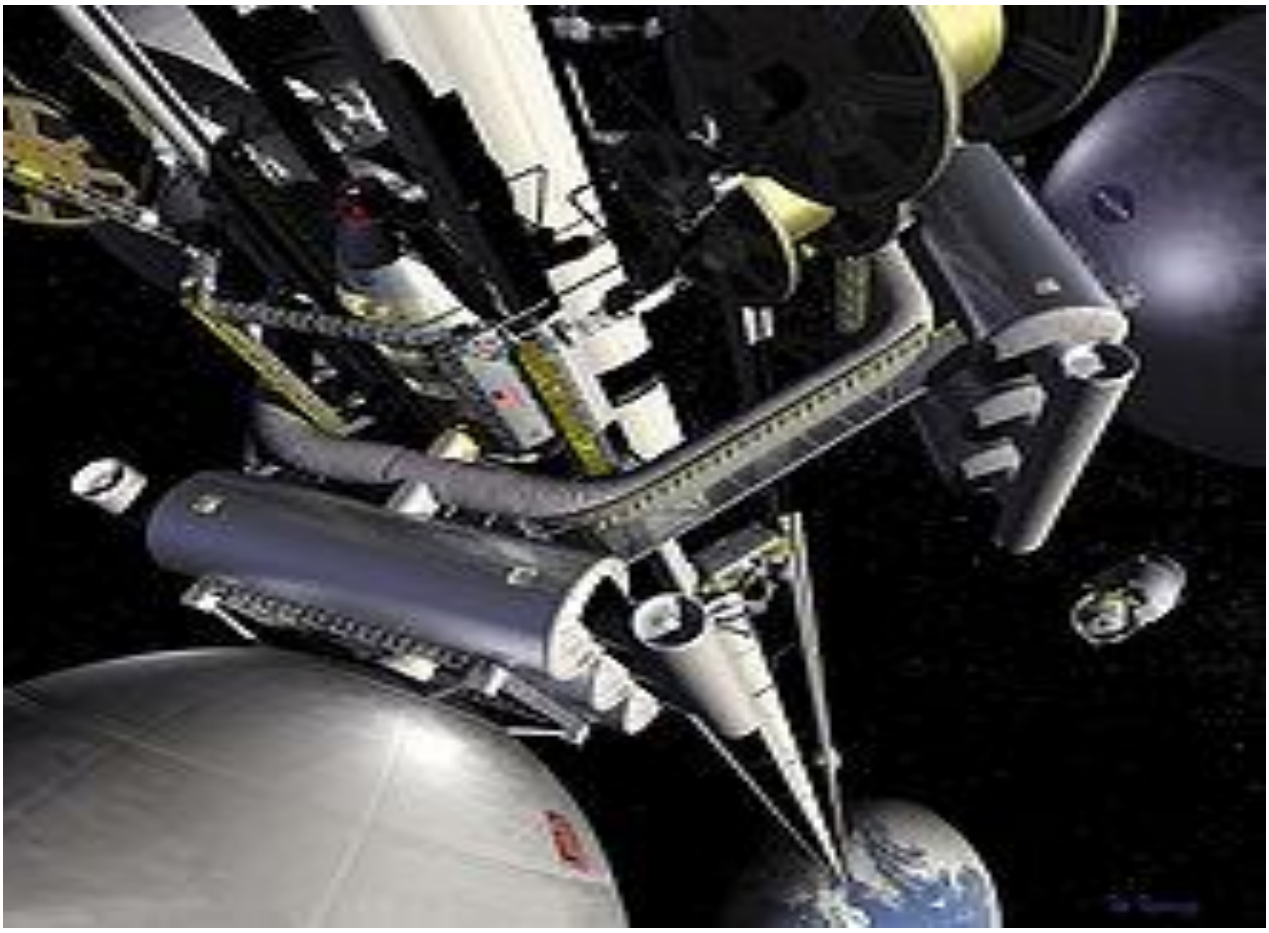

Advanced Grammar

Purpose

The purpose is the main reason of doing/ for the sake of performing.

* Study these expressions about purpose:

1– He toured in France **to** watch Eiffel Tower and Louvre Museum.

2– You entered faculty of engineering **in order to** specialize in it.

3– They need to study hard **so as to** achieve their mechanical scheme.

4– We must learn English **so that** we can get vacancies worldwide.

5– She carries spare tyres **in case** she has a flat tyre.

6– I dare not to show all my talents **lest** someone may feel envious.

7– The professor prepared interested works **for** amazing presentations.

8– Some engineering students came here **for the sake of** nothing. Is that possible?

9- It stopped working **owing to** unknown hidden troubles.

10– This smart world is **due to** the great efforts exerted in technology innovations.

* **Now make your own sentences using the formulas above:**

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Deduction

* Read these sentences fully and notice carefully:

(1) They spent a hectic day in the chemical laboratory; so they **must** be jaded.

(2) She has been travelling to Europe frequently; she **must have been** dazzled by it.

(3) There is a reverberation in the distance; it **has to** be of plane.

(4) The computerization was a giant leap for companies; it **had to** cause redundancy.

***** Create your own sentences utilizing the abovementioned forms:

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