MEETING 6

AN 'INTERNET OF EARS?'

A. LEARNING OBJECTIVE

In this module you will be able to use Prepositional phrases in sentences, able to speak, listening and understand reading the text provided.

B. DECRIPTION OF MATERIAL

1. preposition

Preposition, as we know is a part of speech. It is very important to the writing and to the speaking of a good English. The preposition is the link which connects the words and phrases of a sentence in various special relationship.

See example below:

a. A new laptop was sent to peter

b. A new laptop was sent for Peter

c. A new laptop was sent by Peter

d. A new laptop was sent from Peter

1. **Prepositional phrase**

How prepositional phrases use in sentences such as of different images, accros the screen, on the internet, in various media, by dragging. Through internet, into the computer's memo.

a. There many prepositional phrase the list below only few example of prepositional phrases (Up the building, Around the campus, Into the city, Within the book's pages, Through the tunnel, In spite of, Instead of, Any more, On account of, To the fact that Because of etc)

b. Examples of Prepositional Phrases in sentences

1. The CPU ***with joystick is yours***.

2. The keyboard ***with illuminate keys is yours***.

3. We look ***up articles from Google***.

4. We scroll ***up the article to see the title***.

5. Students submit papers ***through mail***.

6. The students study online ***through e learning***

C.EXERCISES

1. Structure

1.1 Underline the prepositional verbs in the sentences below!

1) Mary is studying data mining in the classroom at this time

2) There are not many errors in the programming lesson this time.

3) What time shall we be in class?

4) How much money did you spend at the gadget fair?

5) Who is that man doing presentation in the IT seminar?

6) We spent our last weekend in computer lab.

7) You can keep your laptop in my room.

8) There is nobody in the computer lab at such an early hour.

9) How did students understand the lesson without exercises?

10) With computer lab students will be able to do research on computer assembly lessons..

11) Students ability in doing computer project will be depend on how much time they spend on computer.

1.2 chose the correct prepositional phrase to complete the sentences below!

1) Several students do their computer project _____

a.	In the laboratory room	c.	In the hall
b.	At the back yard	d.	At the mall

2) .   My uncle works _____. as a system analyst

a.	For the canteen	c.	For a restaurant
b.	For the market	d.	For the company

3)   You can find our material about coding _____ .

a.	On internet	c.	at internet
b.	In internet	d.	of internet

4) Digital computer can be divided _____ .

a.	into five main types	c.	onto five main types
a.	In five main types	d.	for five main types

5)   I gave the students reading test _____.

a.   At e-learning   c.   in e-learning

b.   Through e-learning   d.   from e-learning

6) My friend knows some _____ languages very well

a.   of program   c.   of programming

b.   of programmer   d.   to programmimg

7) My younger sister trained computer _____

a.   in a playgroup student   c.   to the elementary students

b.   about university students   d.   for high school students

8) The main way that computers can connect

a.   over the television   c.   over the internet

b.   over the telephone   d.   over the radio

9) We must remove a defect or an error

a.   from a program c.   in a program

b.   for a program   d.   to a program

10) You have to know the function _____

a.   of main storage   c.   on main storage

b.   in main storage   d.   from main storage

11) Please mention the function _____

a.   from machine language   c.   by machine language

b.   in machine language   d.   of machine language

12) There are lots students doing their computer project _____.

a. In the lab

b. There

c. Now

13) After studying, the students usually spend time _____.

a. At the canteen

b. talking

c. And eat

2. **Speaking ; Smart home**

   2.1 Pair work; Practice the conversation with your partner below!

Ken	Have you heard about internet of eyes and ears?
Sultan	Yes, everyday devices at home will be possible to use visual and voice integrated technology.
Ken	what does it mean?
Sultan	For example if you have a device that uses eyes and ears technology, it will be able to recognize your face by seeing your face, and it will be able to recognize your voice.
Ken	Does it mean the eyes and ears technology device will only work my if the owners have recorded their image and voice?
Sultan	That is right. The device could also be possible to set automatically.
Ken	How does a device automatically?
Sultan	For example the air conditioners will on or off automatically when devices see no people around the house. the television will off automatically when there is no person watching for minutes that have been set.
Ken	How soon will the technology be used?
Sultan	Eyes and ears technology for home devices are being developed, but you can try "tesla" the auto pilot car.
Ken	Sure I would love to have that car, but I need to finish my study first and start my business.
Sultan	Good luck
Ken	Thank you .

2.2 Work in pair to answer the questions below!

2.3 After discussing the questions below, record your answer with sound recording in your mobile phone!

https://thevillagegeek.org/the-modern-smart-home/

1. Do you think you will live in smart home in the future?
2. Is smart home possible to apply in every home?
3. what do you think the function of the surveillance camera?
4. How do you think the door sensor will work?
5. What do you think the function of motion sensor?
6. How do you think the light will be control in smart home?
7. What do you think the function of the window sensor?
8. What devices do the homes need to be smart?
9. What are the advantageous of smart homes?
10. Do you think you will enjoy living in smart home? Why or why not?

3. **Reading**

   3.1 Read loud the article below and record your voice by using sound recording in your mobile phone!

   3.2 Underline the prepositional phrase

   What's next for smart homes: An 'Internet of Ears?'

Next generation of smart homes **envisions** using changes in **vibrations**, sound and electrical field to improve energy consumption, monitor occupants' movements. Houses have been getting **progressively** "smarter" for decades, but the next generation of smart homes may offer what two Case Western Reserve University **scientists** are calling an "Internet of Ears." Today's smart home features **appliances**, entertainment systems, security cameras and lighting, heating and cooling systems that are connected to each other and the Internet. They can be **accessed** and controlled remotely by computer or smart-phone apps.The technology of interconnecting commercial, industrial or government buildings, someday even **entire** communities, is **referred** to as the "Internet of Things," or IoT.

Envisions, vibrations, progressively, scientists, But a pair of electrical engineering and computer science professors in the Case School of Engineering have been experimenting with a new suite of sensors. This system would read not only the vibrations, sounds -- and even the specific **gait**, or other movements -- **associated** with people and animals in a building, but also any **subtle** changes in the existing **ambient** electrical field.While still maybe a decade or so away, the home of the future could be a building that **adjusts** to your activity with only a few small, hidden sensors in the walls and floor and without the need for **invasive** cameras.

A building that 'listen "We are trying to make a building that is able to 'listen' to the humans inside," said Ming-Chun Huang, an **assistant** professor in electrical engineering and computer science."We are using principles similar to those of the human ear, where vibrations are **picked up** and our algorithms decipher them to **determine** your specific movements. That's why we call it the 'Internet of Ears.'"

Huang is leading the research related to human gait and **motion** tracking, while Soumyajit Mandal, the T. and A. Schroeder Assistant Professor of Electrical Engineering and Computer Science, focuses on vibration sensing and changes in the existing electrical field caused by the **presence** of humans or even pets."There is actually a **constant** 60 Hz electrical field all around us, and because people are somewhat conductive, they short out

the field just a little," Mandal said. "So, by measuring the **disturbance** in that field, we are able to determine their presence, or even their breathing, even when there are no vibrations associated with sound. Huang and Mandal published details of their research in October at the IEEE (Institute of Electrical and Electronics Engineers) Sensors conference in New Delhi, India. A longer version of their results will appear in the journal IEEE Transactions on Instrumentation and Measurement early next year. They've also tested the technology in conference rooms in the electrical engineering department on campus and in the Smart Living Lab at Ohio Living Breckenridge Village, a senior-living community in Willoughby, Ohio. Mandal said they have used as few as four small sensors in the walls and floor of a room. As for privacy **concerns,** Mandal said the system would not be able to identify individuals, although it could be **calibrated** to **recognize** the different gaits of people.

Energy savings, building safety. They **expect** the system could provide many benefits. "The first advantage will be energy efficiency for buildings, especially in lighting and heating, as the systems adjust to how humans are moving from one room to another, allocating energy more efficiently," Huang said.   Another benefit could be the ability to track and measure a building's structural integrity and safety, based on human occupancy -- which would be critical in an earthquake or hurricane, for example, Huang said. "This hasn't really been explored as far as we've seen, but we know that humans create a dynamic load on buildings, especially in older buildings," Huang said. "In collaboration with our colleague Yeong Ae Heo in the Civil Engineering department, we are trying to predict if there is going to be structural damage because of the increased weight or load based on the number of people on the floor or how they are distributed on that floor." https://www.sciencedaily.com/releases/2018/11/181115083009.html

       3.3 **Read the article again and answer the question below**

1) What are Today's smart home features appliances?
2) How to access those smart home features appliances?
3) How would the new suite of sensors work in the future?
4) What would be like the smart home in the future?
5) Why does it call the 'Internet of Ears.'?
6) Why people can't people feel 60 Hz electrical field all around them?
7) How can lighting and heating can be benefitting from the system?

3.4 Mark Correct for true statement and Mark Incorrect for false statement below!

1) Smart homes will improve energy efficiency .

O correct

O incorrect

2) Your computer and smart phone will be able to control smart home from distance.

O correct

O incorrect

3) Vibrations sounds can be read in future smart home.

O correct

O incorrect

4) Big cameras will records every activity in smart home.

O correct

O incorrect

5) The research related to human gait and movement is being research by Soumyijit Mandal and team.

O correct

O incorrect

6) Field around us is contained constant electrical of 60Hz.

O correct

O incorrect

7) Few people have been used small sensor in the wall and floor in a room

O correct

O incorrect

8) system would be able to identify individuals.

O correct

O incorrect

4. **Listening**

   4.1 Listen to Sultan Issa Hampton talking about Internet of things Technology and write T for true statement and F for false statements.

   1. Does it possible to connect with all of equipment at home in smart home technology?
   2. How many items inside the home does the speaker mention? What are?
   3. How you communicate with the things in your home?
   4. What is the key component in smart home technology?

5. **Writing**

   5.1 Write sentences by using the prepositional phrase below!

   1)   In the field of computer :_____
   2)   Of the computer: _____
   3)   Onto the screen of a tablet PC: _____
   4)   Within the computer system" _____
   5)   Through internet: _____
   6)   On the hard disk : _____
   7)   Up a computer system: _____
   8)   By a computer: _____
   9)   Inside your system: _____
   10)   To the CPU: _____
   11)   Into the display: _____
   12)   With graphics: _____
   13)   At the screen display: _____
   14)   For mobile professionals: _____
   15)   Over phone lines: _____

5.2 Writing: Please write your own sentences about smart home by using prepsitional phrases.

_____

_____

_____

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_____

_____

_____

6. Key words

Find the synonym and translate the following words.

<u>English</u>	<u>Synonym</u>	<u>Indonesian</u>
accessed	_____	_____
adjusts	_____	_____
ambient	_____	_____
appliances	_____	_____
assistant	_____	_____
associated	_____	_____
calibrated	_____	_____
concerns	_____	_____
constant	_____	_____
determine	_____	_____
disturbance	_____	_____
entire	_____	_____
Envisions	_____	_____

D. BIBLIOGRAPHY

Azar, Betty, Understanding and using English Grammar, New Jersey, Prentice Hall (1989)

Taylor, Grant, Mastering American English, San Fransisco, McGraw-Hill Book Company, Inc. (1956)

Remacha Esteras, Santiago, English for Computer Users, Cambridge, Cambridge University Press (2008)

Chapman A. James, Grammar and Composition III , Fourth Edition, USA, Pensacola Christian College (2001)

Murcia Marianne Celce , Freeman Diane Larse and Williams Howard, The Grammar Book, Second Edition. New York (1980)

Broukal, Milada, Toefl Test Assistant Grammar, Heinle & Heinle Publishers (1995)

Wishon E. George and Burks M. Julia, Let's Write English, Revised Edition. New York, American Book Company (1980)

Widodo, Edi R, Bahasa Inggris – Seri Diktat Kuliah, Penerbit Gunadarma (1996)

Frank, Marcela. Modern English, Exercices for non-native speakers, Part II, Prentice-Hall, Inc., Englewood Cliffs, New Jersey (1972)

Doty, Gladys G and Ross, Janet, Lamguage and Life in the U.S.A. Third edition, Harper & Row Publisher, New York (1973)

Sulasih, Bahasa Inggris 4, Penerbit Unpam Press 2016

Mohadib, Purnaningsih Pari, Isnaini Resti, Sulasih, Bahasa Inggris 3, Penerbit Unpam Press 2016

Mohadib, Purnaningsih Pari, Misliyah Neneng, Isnaini Resti, Sulasih, Bahasa Inggris 2, Penerbit Unpam Press 2016