GROUP 11

ENGLISH INTRUCTION MEDIA

OUR GROUP MEMBERS ARE

- 1.ATHIPBODEE NUALDOKRUK
- 2.SITTICHOK SAEKOW
- 3.TANAKORN SRISOOK
- 4.WEERAWUT MANGKANG
- 5.SARUN KLUNHOM
- 6.KAISORN SUPTHIP

OUR CONSULTANTS

- 1.CAPTAIN PRACHYA HUADPAKNAM
- 2.COMMANDER SANONG KULTAN
- 3.CHIEF PETTY OFFICER FIRST CLASS CHAIWAT POOCHANG

1.Principles and Reason

- **1.1 Student have many problems to use English for speaking and communication**
- **1.2 maintenance handbook are written in English**

2.OBJECTIVE

- 2.1 Integration of knowledge that have learned to create English instruction Media
- 2.2 to increase English usage skill to present the project
- 2.3 to promote English Learning

3.APPLY

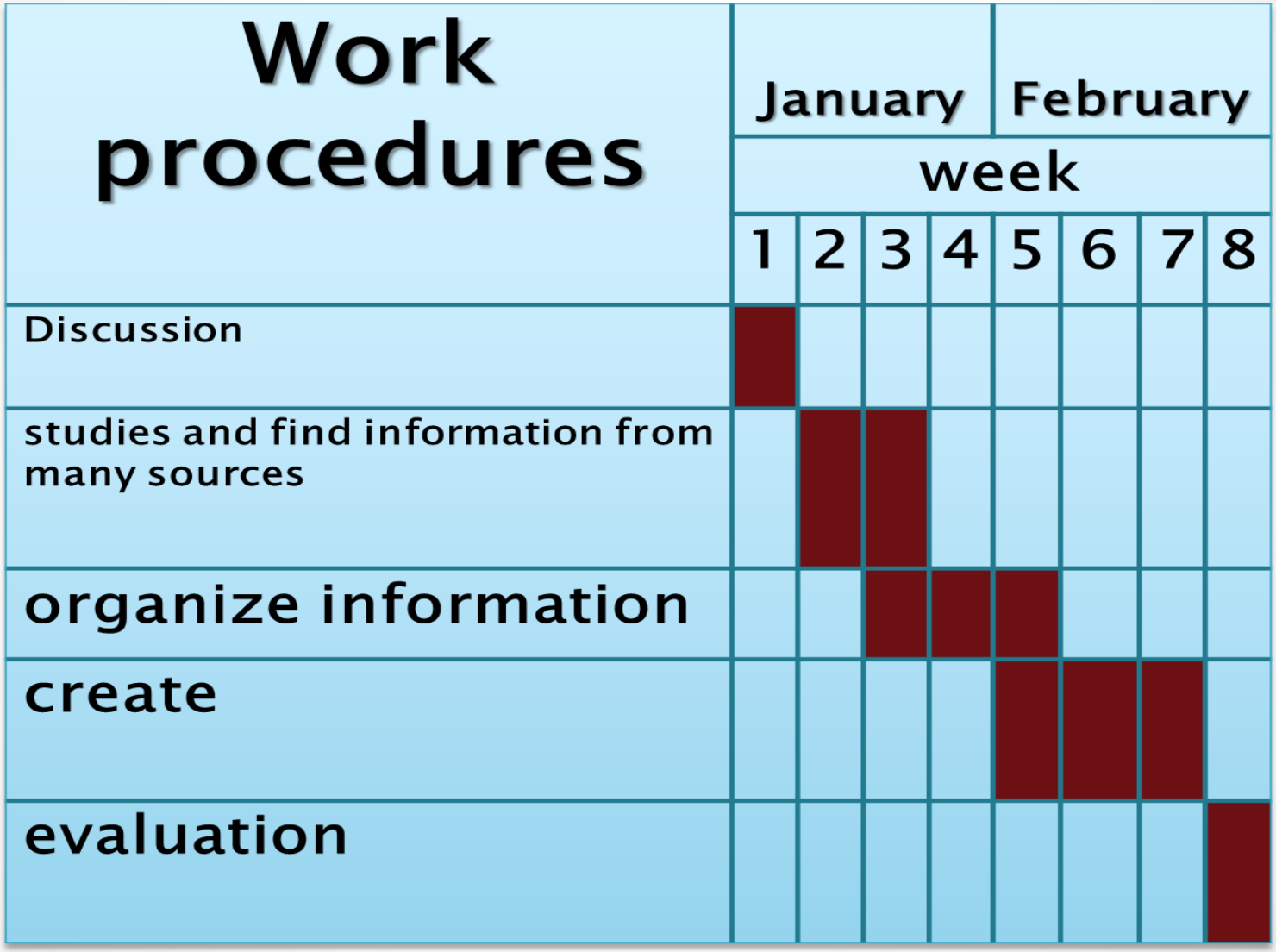
- **3.1 Use as instruction media for Naval Rating Student course and chief petty officer line career**
- **3.2 apply to profession**

4.scope

- **4.1 Basic Electronic**
- **4.2 Electronic Vocabulary**

5.INDICATORS

- **5.1 Can create and present piece of works at least 5 subjects**
- **5.2 the students can use English to present**


Work procedures
January
February
week
1
2
3
4
5
6
7
8
Discussion
studies and find information from many sources
organize information
create
evaluation

TOPIC

1. Transducer
2. Motor
3. Diode

1.TRANSDUCER

- At an airport and some restaurants we see automatic doors which open automatically so we proceed towards it. Have you ever thought how such doors operate , Let's try to understand this .
- Such doors consist of an infrared ray emitter which radiates invisible rays. The emitted infrared rays are reflected by a person proceeding toward the doors .The reflected rays are then received by a device which converts them into Electrical energy.

TRANSDUCER

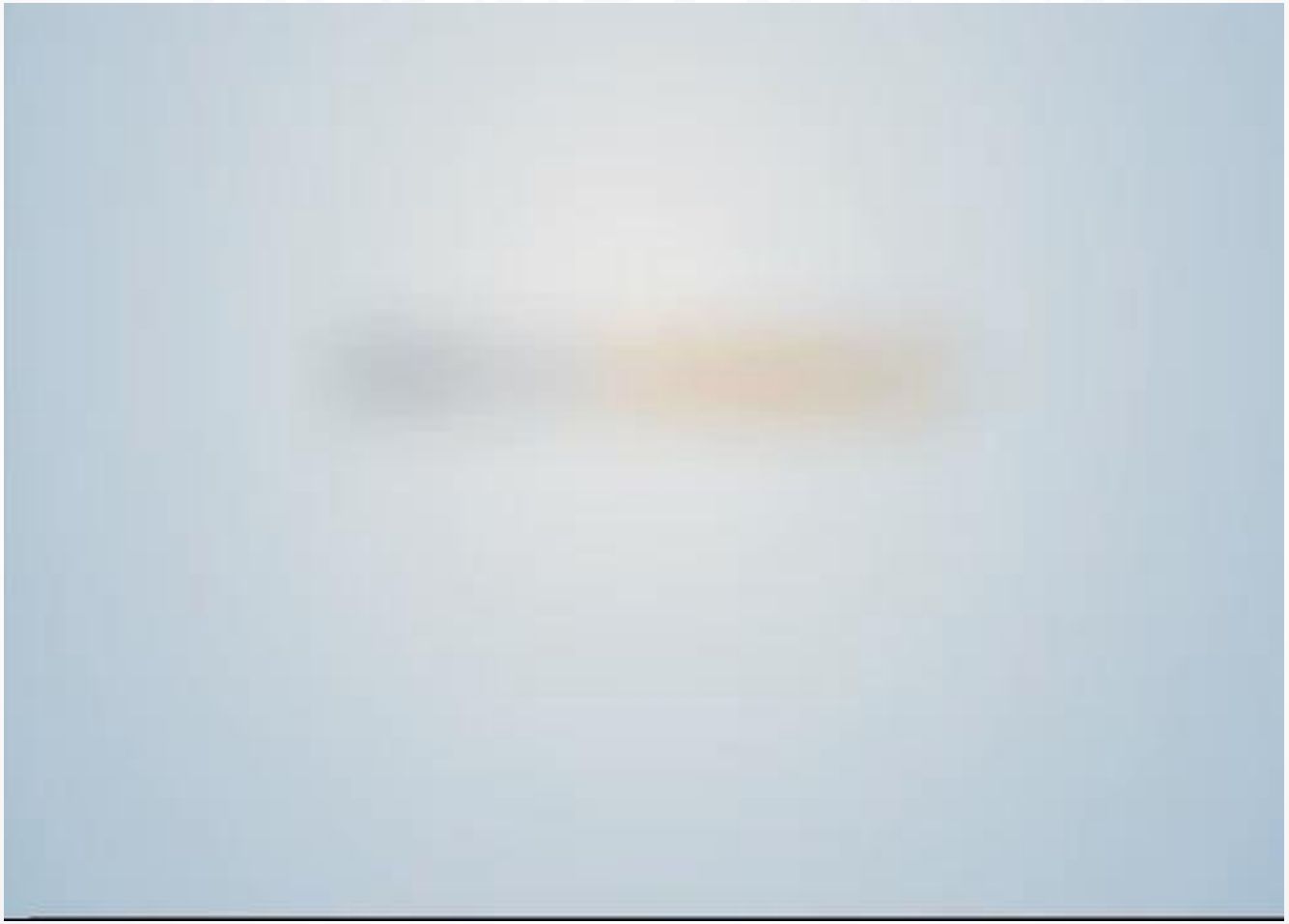
- This electrical energy then energizes the motors connected to the door ; thus opening the door automatically. Such device which converts light energy into electrical energy is known as

transducer ; thus we can say the transducer is an electrical which converts energy from one form to another

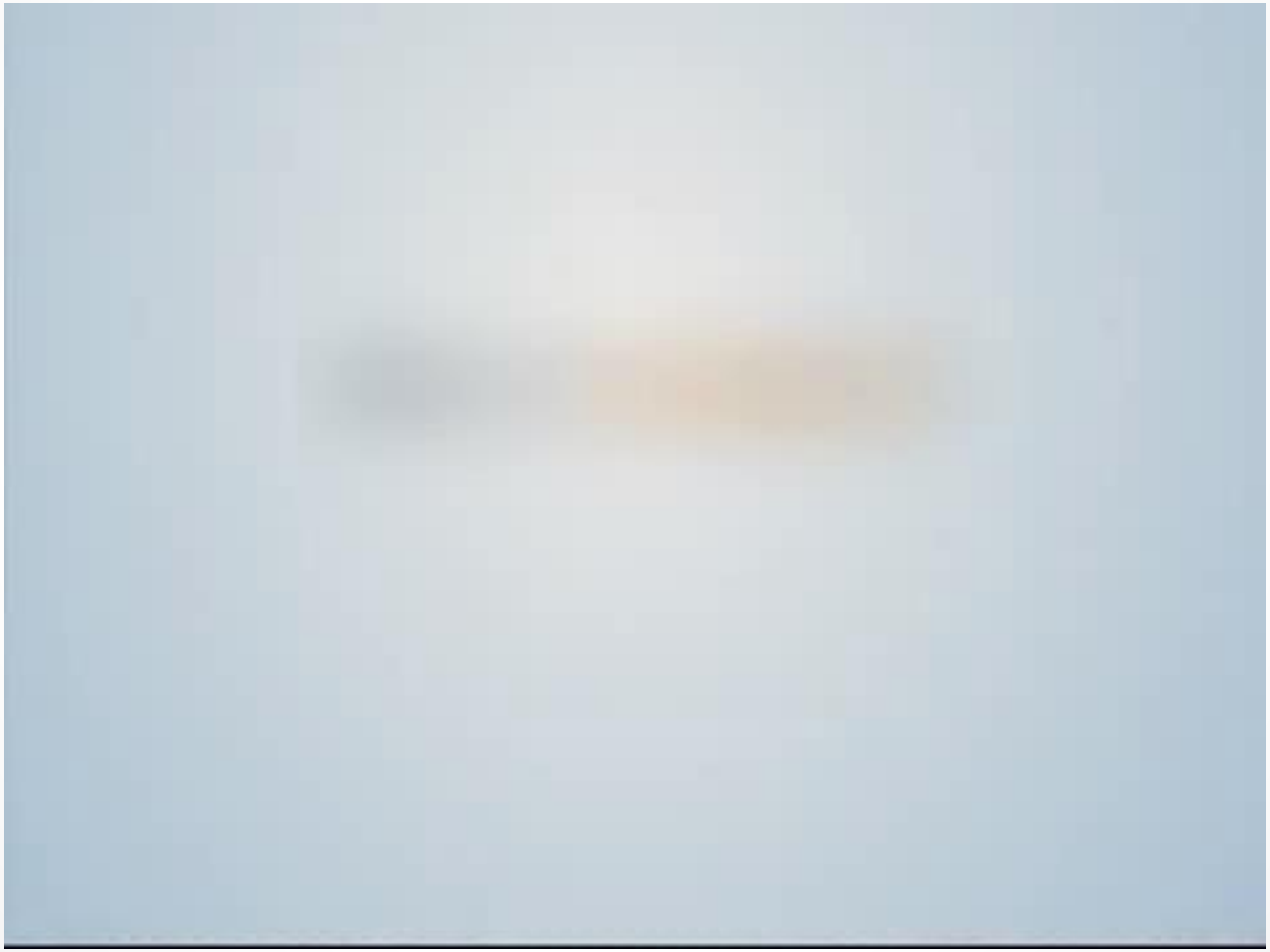
TRANSDUCER

- Some of the examples of the transducer are phototransistor which converts light energy into electrical energy
- LVDT which converts translational motion into electrical energy and thermistor which senses heat energy into electrical energy.

TRANSDUCER



Product by clip transducer



2.MOTOR

- These are some electrical appliances we use in our day-to-day life. Have you ever wondered about what make them spin inside? It's an electric motor. This motor uses electric current to create a mechanical rotational motion. Let's see how a dc electric motor works.

MOTOR

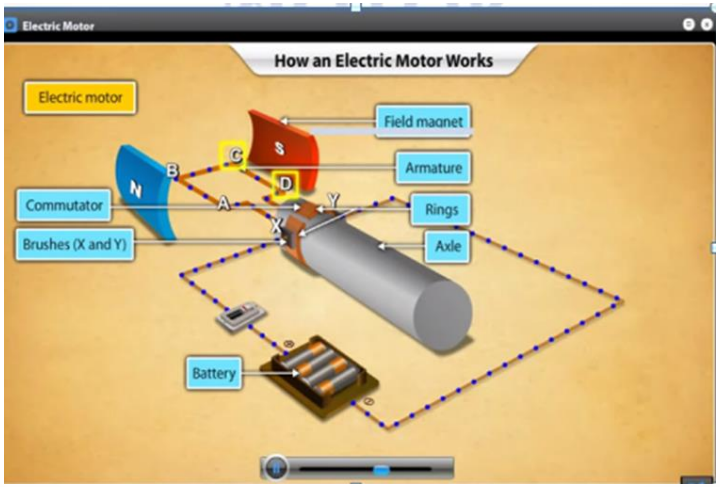
- An electric motor has the following parts: a field magnet, a commutator, brushes, an armature, an axle, And an electric source such as a battery. Generally, in a motor, an armature is made of several terms of copper wire wound on a soft iron core, But for simplicity. We just look at the single copper coil ABCD. The armature is placed between the two poles of a permanent field magnet. The two ends of the armature are connected to the two separate halves of a split ring called the 'commutator'. The split ring with its two halves P and Q is attached to the axle but both the halves of the ring and the axle are insulated from each other.

MOTOR

- However, the split ring is connected to the battery by two stationary contact points x and y called brushes. Recall Fleming's left hand rule stretch out the thumb forefinger and middle finger of your left hand in directions mutually perpendicular to each other. The middle finger then indicates the flow of electric current, the forefinger gives the direction of the applied magnetic field, and the thumb indicates the direction of the force applied on the conductor. When you switch on the circuit, electrical current passes through brush x, flew through coil ABCD, and returns to the battery through brush Y. Note that the field magnet applies a magnetic field perpendicular to the flow of current.

MOTOR

- In electrical appliances, the axle of the motor is connected to equipment such as a blade of mixer or a fan. The speed of the motor depends upon the amount of current in the wire loop, the length of the wire loop, and the strength of the magnetic field.



MOTOR

Product by clip motor

3. DIODE

- A diode is a specialized electronic component with two electrodes called the anode and the cathode. Most diodes are made with semiconductor materials such as silicon, germanium, or selenium.

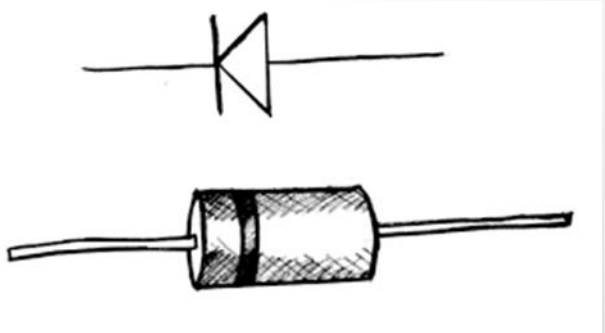
DIODE

- This video is about show semiconductor diode working function

-In electronics, a diode is a two terminal electronic component that conducts primarily in one direction; it has low resistance to the flow of current in one direction, and high resistance in the other. A semiconductor diode, the most common type today, is a crystalline piece of semiconductor material with a p–n junction connected to two electrical terminals. A vacuum tube diode has two electrodes, a plate (anode) and a heated cathode.

DIODE

- Semiconductor diodes were the first semiconductor electronic devices. The discovery of crystals' rectifying abilities was made by German physicist Ferdinand Braun in 1874. The first semiconductor diodes, called cat's whisker diodes, developed around 1906, were made of mineral crystals such as galena. Today, most diodes are made of silicon, but other semiconductors such as selenium or germanium are sometimes used.



DIODE

- **Main functions of diode.**

-The most common function of a diode is to allow an electric current to pass in one direction, called the diode's forward direction, while blocking current in the opposite direction or the reverse direction. Thus, the diode can be viewed as an electronic version of a check valve. This unidirectional behavior is called rectification, and is used to convert alternating current (AC) to direct current (DC), including extraction of modulation from radio signals in radio receivers—these diodes are forms of rectifiers.

DIODE

Product by clip diode

Vocabulary transducer

1.restaurant = ร้านอาหาร ชนิดคำ noun

EX: There are a number of nice restaurants near here.

2.automatic door = ประตูอัตโนมัติ ชนิดคำ adjective + noun

EX: This is an automatic door.

3.automatically = โดยอัตโนมัติ ชนิดคำ adverb

EX: The door locks automatically.

4.Proceed = ดำเนินการ ชนิดคำ verb

EX: The project is proceeding slowly.

5.toward = ไปสู่,ใกล้จะถึง ชนิดคำ verb

EX: The road curves gently towards the west.

6.Thought = ความคิด ชนิดคำ noun

EX: When I first met him I thought he was putting on airs.

7.Operate = ปฏิบัติ ชนิดคำ verb

EX: This store is operated on a cash basis.

Vocabulary transducer

8.Consist = ประกอบด้วย ชนิดคำ verb
EX: This theory consists of three parts.
9.Infrared = แสงอินฟราเรด ชนิดคำ noun
EX: Such doors consist of an infrared ray emitter.
10.radiate = แผ่รังสี ชนิดคำ verb
EX: An infrared ray emitter radiates invisible rays.
11.Invisible = ซึ่งมองไม่เห็น ชนิดคำ adjective
EX: The moon is invisible behind the clouds.
12.Reflected = สะท้อนกลับ,สะท้อนให้เห็น ชนิดคำ verb
EX: The mountains are reflected in the lake.
13.Person = บุคคล,ตัวเอง ชนิดคำ noun
Ex: We could really use another person around here.
14.Received = รับ,ได้รับ ชนิดคำ verb
Ex: The reflected rays are then received by a device.
15.Energize = กระตุ้น ชนิดคำ verb
Ex: This electrical energy then energizes the motors connected to the door.

Vocabulary transducer

16.Electrical energy = พลังงานไฟฟ้า ชนิดคำ noun

EX: LVDT which converts translational motion into electrical energy

17.Thus = ดังนั้น ชนิดคำ noun

Ex: I can't get rid of thus cold.

18.Device = อุปกรณ์ ชนิดคำ verb

Ex: This device is actuated by a switch.

19.Convert = แปลง,เปลี่ยน ชนิดคำ verb

Ex: The body converts extra calories into fat.

20.Electronic device = อุปกรณ์อิเล็กทรอนิกส์ ชนิดคำ noun

Ex: Thus we can say the transducer is an electronic device.

21.Example = ตัวอย่าง ชนิดคำ noun

Ex: Please give us some examples.

22.Sense = อารมณ์,ประสาทสัมผัส ชนิดคำ verb

Ex:. Then he came to his senses.

23.Heat = ความฉุนเฉี่ยว,ความร้อน ชนิดคำ noun

Ex: Which senses heat energy into electrical energy.

Vocabulary motor

1.Appliances = เครื่องใช้ ชนิดคำ noun

Ex: Electrical appliances have made housework easier.

2.day-to-day = แต่ละวัน ชนิดคำ adjective

Ex: I am tired of the day-to-day routine of life.

3.Inside = ภายใน ชนิดคำ preposition

Ex: Your shirt is inside out.

4.Electronic current = กระแสไฟฟ้าอิเล็กทรอนิกส์ ชนิดคำ noun

Ex: This motor uses electronic current to create a mechanical rotation motion.

5.Create = แต่งตั้ง,สร้าง ชนิดคำ verb

Ex: All men are created equal.

6.Mechanical = เครื่องจักรกล ชนิดคำ adjective

Ex: Ours is a mechanical age.

7.Rotational = หมุนรอบ ชนิดคำ adjective

Ex: This motor uses electronic current to create a mechanical rotation motion.

Vocabulary motor

8.Magnet = แม่เหล็ก ชนิดคำ noun
Ex: Keeton put magnets on the heads of his pigeons.
9.Commutator = กลไกในการสับเปลี่ยนกระแสไฟฟ้า ชนิดคำ noun
Ex: The commutator is a part of motor that helps reverse the direction of current.
10.Brushes = ปัด,กวาด ชนิดคำ noun
Ex: She said that she brushes her teeth every morning.
11.Armature = สิ่งที่ใช้ป้องกัน ชนิดคำ noun
Ex: An a armature is made of several terms of copper wire.
12.Axle = แกน ชนิดคำ noun
Ex: Wheels turn on axles.
13.Fllowing = ดังต่อไปนี้ ชนิดคำ adjective
Ex: An electric motor has the fllowing parts.
14.Generally = โดยทั่วไป ชนิดคำ adverb
Ex: It is generally hard to adapt to living in an alien culture.
15.Soft = ความนิ่ม ชนิดคำ adjective
Ex: Here are two pencils: one is hard, and the other soft.
16.Iron = เข้มแข็งเหมือนเหล็ก ชนิดคำ noun
Ex: This bridge is made of iron.

Vocabulary motor

17.Simplicity = ความเรียบง่าย ชนิดคำ noun
Ex: His story was simplicity itself.
18.Coil = ขด ชนิดคำ noun
Ex: The snake coils itself up.
19.Permanent = ถาวร ชนิดคำ adjective
Ex: I'd like to make an appointment for a permanent.
20.Separate = แยก ชนิดคำ verb
Ex: The English Channel separates England and France.
21.Halves = แบ่งครึ่ง ชนิดคำ noun
Ex: You shouldn't do things by halves.
22.Insulated = ห่อหุ้มด้วยฉนวน ชนิดคำ adjective
Ex: The village is insulated from the world.
23.Contact = การติดต่อสื่อสาร ชนิดคำ verb
Ex: I can't get my contacts out.
24.Points = ความคิดเห็น ชนิดคำ noun
Ex: You'd better check these points.
25.Recall = เรียกกลับ ชนิดคำ verb
Ex: A stone once cast, and a word once spoken, cannot be recalled.

Vocabulary motor

26.mutually = ร่วมกัน ชนิดคำ adverb
Ex: These facts are mutually related.
27.Force = กำลัง ชนิดคำ noun
Ex: As if something gonna force you.
28.Conductor = ผู้ควบคุม ชนิดคำ noun
Ex: The famous conductor lives in New York.
29.Circuit = การโคจรรอบ ชนิดคำ noun
Ex: Let's jump the protection circuit.
30.Mixer = เครื่องผสม ชนิดคำ noun
Ex: I make a glass of fruit blends by a mixer.
31.Equipment = อุปกรณ์ ชนิดคำ noun
Ex: This store carries household equipment.
32.Depends = ขึ้นอยู่กับ ชนิดคำ verb
Ex: How much we pay you depends on your skill.
33.Stretch = เหยียดตัว ชนิดคำ verb
Ex: This material stretches easily.

Vocabulary diode

1.Specialized = ศึกษาเป็นพิเศษ ชนิดคำ adjective

Ex: She specialized in economic.

2.Component = ส่วนประกอบ ชนิดคำ noun

Ex: The components obtained by distillation of coal tar are as shown below.

3.Semiconductor = อุปกรณ์ตัวนำ ชนิดคำ noun

Ex: Diode is made from semiconductors.

4.Materials = เครื่องมือ ชนิดคำ noun

Ex: We got all the materials together.

5.Conduct = การจัดการ,ความประพฤติ ชนิดคำ verb

Ex: We ask you to account for your conduct.

6.Primarily = แรกเริ่ม,อย่างที่เป็นพื้นฐาน ชนิดคำ adverb

Ex: This dictionary is primarily intended for high school students.

7.Direction = การควบคุม,คำสั่ง ชนิดคำ noun

Ex: I wish I had obeyed his directions.

Vocabulary diode

8.Resistance = การต่อต้าน,ความอดทน ชนิดคำ adjective
Ex: Take the line of least resistance.
9.Most = ที่สุด,ส่วนใหญ่ ชนิดคำ adverb
Ex: She's at most 20 years old.
10.Common = ที่เกิดขึ้นทุกวัน ชนิดคำ adjective
Ex: Mischief is common to most children.
11.Tube = หลอด ชนิดคำ noun
Ex: The tube was shattered by the explosion.
12.Plate = แผ่น ชนิดคำ noun
Ex: The plate is made of plastic.
13.Devices = อุปกรณ์ ชนิดคำ noun
Ex: He likes to take electric devices apart.
14.Discovery = การค้นพบ ชนิดคำ noun
Ex: This is a surprising discovery.

Vocabulary diode

15.Crystals = คริสตัล ชนิดคำ noun

Ex: Elements is often found in forms of mineral crystals.

16.Physicist = นักฟิสิกส์ ชนิดคำ noun

Ex: He is as great a physicist as ever lived.

17.Developed = ที่พัฒนาแล้ว ชนิดคำ adjective

Ex: The town developed into the center of the economy.

18.Mineral = แร่ ชนิดคำ noun

Ex: The province is rich in mineral resources.

19.Galena = แร่ตะกั่วสีน้ำเงินเทาหรือดำ ชนิดคำ noun

Ex: Galena is a kind of crystalline semiconductors.

20.Reverse = ตรงกันข้าม ชนิดคำ verb

Ex: The reverse of left is right.

21.Unidirectional = ไปในทิศทางเดียวกัน ชนิดคำ adjective

Ex: Diode is a device that exhibit unidirectional behavior.

Vocabulary diode

22.Behavior = พฤติกรรม ชนิดคำ noun

Ex: The behavior of this animal is interesting.

23.Alternating = การผลัดเปลี่ยนกัน ชนิดคำ adjective

Ex: The current used in our home is alternating current.

24.Extraction = การถอน,สารผสม-สารละลาย ชนิดคำ noun

Ex: The extraction of glycerol from mixtures is quite hard to do.

25.Signals = สัญญาณ ชนิดคำ noun

Ex: Radio signals is weaken here.

26.Rectifiers = แปลงกระแสไฟสลับ ac ให้เป็นกระแสตรง dc ชนิดคำ noun

Ex: Diodes are forms of rectifiers.