APPENDIX

Table 12

Table to Find Out The Reliability Coefficient of The Grammar Test

n	x	y	xy	x^2	y^2
1	40	40	1600	1600	1600
2	70	20	1400	4900	400
3	50	40	2000	2500	1600
4	30	20	600	900	400
5	20	40	800	400	1600
6	20	20	400	400	400
7	90	70	6300	8100	4900
8	30	60	1800	900	3600
9	60	60	3600	3600	3600
10	80	60	4800	6400	3600
11	80	40	3200	6400	1600
12	50	40	2000	2500	1600
13	40	70	2800	1600	4900
14	70	70	4900	4900	4900
15	10	60	600	100	3600
16	80	60	4800	6400	3600
17	60	60	3600	3600	3600
18	80	70	5600	6400	4900
19	100	90	9000	10000	8100
20	60	90	5400	3600	8100
21	100	80	8000	10000	6400

22	50	60	3000	2500	3600
23	40	50	2000	1600	2500
24	60	30	1800	3600	900
25	50	70	3500	2500	4900
26	70	50	3500	4900	2500
27	70	60	4200	4900	3600
28	70	50	3500	4900	2500
29	60	70	4200	3600	4900
30	50	50	2500	2500	2500
n	x	y	xy	x^2	y^2
30	1740	1650	101400	116200	100900

Note : n= the number of the sample

x= students' score on the **odd** numbers

y= students' score on the even numbers

r= the coefficient correlation of two-half tests

$$r = \frac{n \Sigma xy - \Sigma x \Sigma y}{\sqrt{\left[n \Sigma x^2 - (\Sigma x)^2\right]\left[n \Sigma y^2 - (\Sigma y)^2\right]}}$$

$$= \frac{(30 \times 101400) - (1740 \times 1650)}{\sqrt{\left[(30 \times 116200) - (1740)^2\right]\left[(30 \times 100900) - (1650)^2\right]}}$$

$$= \frac{3042000 - 2871000}{\sqrt{(3486000 - 3027600)(3027000 - 2722500)}}$$

$$= \frac{171000}{\sqrt{458400 \times 304500}}$$

$$= \frac{171000}{\sqrt{139582800000}}$$

$$= \frac{171000}{373608}$$

$$r_{½\,½} = 0.45$$

The estimate reliability

$$r_{11} = \frac{2\, r_{½\,½}}{1 + r_{½\,½}} \quad (64)$$

$$= \frac{2 \times 0.45}{1 + 0.45}$$

$$= \frac{0.9}{1.45}$$

$$= 0.62$$

---

64 R. Soetedjo dan J. Larope, loc.cit

Table **13**

Table to Find Out the Reliability Coefficient of The **Reading** Comprehension Objective Test

n	x	y	xy	x^2	y^2
1	100	80	8000	10000	6400
2	80	60	4800	6400	3600
3	80	60	4800	6400	3600
4	100	40	4000	10000	1600
5	100	60	6000	10000	3600
6	60	40	2400	3600	1600
7	60	80	4800	2600	6400
8	20	20	400	400	400
9	60	80	4800	3600	6400
10	20	60	1200	4000	3600
11	20	40	800	400	1600
12	40	60	2400	1600	3600
13	40	20	8000	1600	400
14	60	40	2400	3600	1600
15	40	40	1600	1600	1600
16	60	0	0	3600	0
17	40	0	0	1600	0
18	40	60	2400	1600	3600
19	100	40	4000	10000	1600
20	60	60	3600	3600	3600

21	100	60	6000	10000	3600
22	100	60	6000	10000	3600
23	0	60	0	0	3600
24	0	40	0	0	1600
25	80	100	8000	6400	10000
26	60	60	3600	3600	3600
27	40	80	3200	1600	6400
28	60	80	4800	3600	6400
29	60	100	6000	3600	10000
30	80	100	8000	6400	10000
n	x	y	xy	x^2	y^2
30	1760	1680	112000	128800	113600

Note : n = the number of the sample

x = students' scores on the odd numbers

y = students' scores on the even numbers

r = the coefficient correlation of two-hali test

$$r = \frac{n \Sigma xy - \Sigma x \Sigma y}{\sqrt{\left[n \Sigma x^2 - (\Sigma x)^2\right]\left[n \Sigma y^2 - (\Sigma y)^2\right]}}$$

$$= \frac{(30 \times 112000) - (1760 \times 1680)}{\sqrt{(30 \times 128800) - (1760)^2 \quad (30 \times 113600) - (1680)^2}}$$

$$= \frac{3360000 - 2956800}{\sqrt{(3864000 - 3097600)(3408000 - 2822400)}}$$

$$= \frac{403200}{\sqrt{766400 \times 585600}}$$

$$= \frac{403200}{\sqrt{448803840000}}$$

$$= \frac{403200}{669928}$$

$$r_{1/2\,1/2} = 0.60$$

The Estimate **reliability**

$$r_{11} = \frac{2\, r_{1/2\,1/2}}{1 + r_{1/2\,1/2}}$$

$$= \frac{2 \times 0.60}{1 + 0.60}$$

$$= \frac{1.2}{1,6}$$

$$0.75$$

Table 12

Table to Find Out the Reliability Coefficient of The Reading Comprehension Subjective Test

n	x	y	xy	x^2	y^2
1	4.16	5.62	23.37	17.30	31.58
2	7.15	8.75	65.62	56.25	76.56
3	9.58	8.75	83.82	91.77	76.56
4	9.58	8.75	83.82	91.77	76.56
5	7.5	5.25	39.37	56.25	27.56
6	6.66	8.75	58.27	44.35	76.56
7	9.16	9.37	85.82	83.90	87.79
8	4.58	2.5	11.45	20.97	6.25
9	5	5.62	28.10	25	31.58
10	7.91	7.5	59.32	62.56	56.25
11	6.66	4.37	29.10	44.35	19.09
12	9.58	10	95.8	91.77	100
13	6.25	6.25	39.06	39.06	39.06
14	5.83	4.37	25.47	33.98	19.09
15	9.58	8.75	83.82	91.77	76.56
16	7.91	9.37	74.11	62.56	87.79
17	9.58	10	95.8	91.77	100
18	5	5	25	25	25
19	7.5	3.75	28.12	56.25	14.06
20	7.08	8.75	61.95	50.12	76.56

21	10	10	100	100	100
22	5	10	50	25	100
23	4.16	2.5	10.40	17.30	6.25
24	3.33	1.25	4.16	11.08	1.56
25	9.16	8.75	80.15	83.90	76.56
26	9.58	9.37	89.76	91.77	87.79
27	5	3.75	18.75	25	14.06
28	5.83	7.5	43.72	33.98	56.25
29	5	6.25	31.25	25	39.06
30	10	6.25	62.5	100	39.06
n	Σx	Σy	Σxy	Σx^2	Σy^2
30	213,66	207,09	1587.88	1649.78	1625.05

Note :

The writer uses decimal fractions in this calculation to avoid large numbers of sums.

n = the number of the sample

x = the student'' mean score in the fry out

y = the student's mean score in the real test

Both scores are taken from the writer's scoring and Sri Soenaring's

r = the coefficient correlation of the try out and the real test

$$r = \frac{n \Sigma xy - \Sigma x \Sigma y}{\sqrt{[n \Sigma x^2 - (\Sigma x)^2][n \Sigma y^2 - (\Sigma y)^2]}}$$

$$= \frac{(30x1587.88) - (213.66x207.09)}{\sqrt{(30x1649.78) - (213.66)^2 \ (30x1625.05) - (207.09)^2}}$$

$$= \frac{47636.40 - 44246.84}{\sqrt{(49493.40-4565059) \ (48751.50-42886.26)}}$$

$$= \frac{3389.56}{\sqrt{3842.81 \ x \ 5865.24}}$$

$$\frac{3389.56}{\sqrt{22539002.92}}$$

$$\frac{3389.56}{4747.53}$$

$$0.71$$

PRETEST OF GRAMMAR

Waktu : 20 menit

Petunjuk A

Pada Bagian A, pilihlah salah satu jawaban yang paling tepat diantara empat pilihan yang tersedia, kemudian pindahkan jawaban saudara pada kertas jawaban dengan menyilang salah satu huruf sesuai dengan jawaban saudara.

1. The two basic instruments (who), (whom) B, (which) C, (whose) D measure temperature are called thermometer and thermo-couple.
2. The temperature rises in the tube (which) A, (when) B, (that) C (how) D it expands.
3. lot allpeople know (when) A, (where) B, (who) C, (how) D discovered thermometer.
4. (That) A, (When) B, (To) C, (Being) D at different temperature, the two junctions between the two metals make the current flow.
5. An electric current flows in a continuous circuit (composed) A, (compose) B, (composing) C, (to compose) D of two different metals.
6. Thermometer consists of a tube that contains a liquid. That contains a liquid refers to :
   A. thermometer
   B. consists
   C. of
   D. a tube
7. An electric current flows in a continuous circuit which is composed oftwo different metals.

Which is composed of two different metals refers to :

A. an electric current
B. flows
C. current flows
D. a continuous circuit

8. Which is composed can be shorten to :

A. compose
B. to compose
C. composed
D. composing

9. ..... the temperature in the instrument is easily found, the other temperature can be calculated.

A. Because
B. Which
C. That
D. Raving been

10. An electric current will flow in a continuous current ..... two junctions between the two metals are at different temperature.

A. that
B. where
C. which
D. if

11. A. Being at different temperatures, the two metals cause the electric current to flow.
B. Because different temperatures, the two metals cause the electric current to flow.
C. If different temperatures, the two metals cause the electric current to flow.
D. That different temperatures, the two metals cause the electric current to flow.

12. A. We have seen how important a plant's instrumentation is.
B. We have seen how is important a plant's instrumentation.
C. We have seen how important a plant's instrumentation.
D. We have seen how important is a plant's instrumentation.

13. A. In order to measure temperature, thermometer or thermocouple can be used.
B. To measure temperature, one can use thermometer or thermocouple.

C. If measuring temperature, one can use thermometer or thermocouple.

D. Meaauring temperature, thermometer or thermocouple can be used.

14. A. If we want to measure our temperature, we can use a thermometer.

B. Having measured our temperature, we can use a thermometer.

C. Measuring our temperature, thermometer can be used.

D. To measure our temperature, thermometer can be used.

15. A. Thomast J. Seeback, which discovered thermocouple, is German physicist.

B. Thomast J. Seeback, who discovered thermocouple, is German physicist.

C. Thomast J. Seeback, who . discovered thermocouple, is German physicist.

D. Thomast J. Seeback whose discovered thermoc uple, is German physicist.

Petunjuk B :

Petunjuk bagian B, ada 3 kata atau frasa yang digaris bawahi (A),(B),(C), saudara harus memilih jawaban yang tidak benar, bila saudara menganggap ketiga pilihan tersebut benar semua maka pilihlah (D).

16. Everybody knows (A) .what is (B) (C) thermometer for. No error (D)

17. Depending (A) on the temperature to be measured (B), the liquid (C) in the tube is usually colored alcohol or mercury. No error (D)

18. To flow (A) an electric current in a continuous circuit, two different metals are needed. No error (B) (C) (D)

PERPUSTAKAAN

19. The height to (A) where (C) it rises is calibrated (D) to indicate temperature. No error (D)

20. Some (A) advance thermocouple instruments are (B) equipped doing (C) the calculation automatically. No error (D)

GOOD LUCK

THE REAL GRAMMAR TEST

I. Test di bawah in bertujuan untuk :
-mengukur seberapa jauh siswa telah rnenguasai English Complex Sentences.
English Complex Sentences yang dimaksud meliputi :
A. Penguasaan Adjective Clause
B. Penguasaan Adverb Clause
C. Penguasaan Noun Clause
D. Penguasaan Gerund Phrase
E. Penguasaan Infinitive Phrase
F. Penguasaan Participle Phrase

II. Waktu untuk mengerjakan test ini : 20 menit

III. Jumlah soal yang harus dikerjakan : 20

IV. Bentuk test : objective test

V. Eetunjuk mengerjakan test :
A. Silanglah jawaban yang paling tepat di kertas jawaban saudara.
Contoh rnengerjakan :
- Thermometer ..... made of glass
a. am b. is c. are d. -
Pada lembar jawaban : bubuhkan tanda silang pada jawaban yang paling benar.
a. b. c. d.

1. The two basic instruments (when), (if), (which), (where) measure temperature are called thermometer and thermocouple.
A B C D

2. The temperature rises in the tube (which), (when), (that), (how) it expands.
A B C D

3. Not all people know (when)$_{A}$, (that)$_{B}$, (who)$_{C}$, (whom)$_{D}$ discovered thermometer.
4. (That)$_{A}$, (When)$_{B}$, (To) (Bein) at different temperature, the two junctions between the two metals make current flow.
5. An electric current flows in a continuous circuit (composed)$_{A}$, (is composed)$_{B}$, (composing)$_{C}$, (to compose)$_{D}$ of two different metals.
6. Thermemter consists of a tube that contains a liquid. That contains a liquid refers to :
   a. Thermometer
   b. consists of a tube
   c. consists of
   d. a tube
7. An electric current flows in a continuous circuit which is composed of two different metals. Which is composed of two different metals refers to :
   a. an electric current
   b. flows
   c. current flows
   d. a continuous circuit
8. WHich is composed can be shortened to :
   a. compose
   b. to compose
   c. composed
   d. composing
9. ..... the temperature in the instrument is easily found, the other temperature can be calculated.
   a. Because
   b. Which
   c. That
   d. If
10. An electric current will. flow in a continuous current ..... two junctions between the two metals are at different temperature .
    a. that
    b. where
    c. which
    d. if

11. ..... different temperature, the two metals cause the electric current to flow.
    a. Being at
    b. When
    c. If
    d. That
12. We have seen .....
    a. how important a plant's instrumentation.
    b. how is important a plant's instrumentation.
    c. how important a plant's instrumentation.
    d. how important is a plant's instrumentation.
13. ..... measure temperature, someone can use thermometer or thermocouple .
    a. Being
    b. To
    c. When
    d. If
14. ....., we can use a thermometer.
    a. If we measure our temperature,
    b. Having measured our temperature,
    c. When measure our temperature,
    d. Because measure our temperature,
15. Thomas J. Seeback, ..., is German physicist.
    a. which discovered thermocouple
    b. whom discovered thermocouple
    c. Who discovered thermocouple
    d. whose discovered thermocouple

B. Eetunjuk mengerjakan test :
Silanglah huruf B bila pernyataan yang digaris bawahi Benar and huruf S bila pernyataan yang digaris bawahi Salah.
Contoh mengerjakan test :
- Thermometer are made of glass.

Pada lembar jawaban : bubuhkan tanda silang pada jawaban yang paling benar.

B S

16. Everybody knows what thermometer is for.
17. Depending on the temperature to be measured, the liquid in the tube is usually colored alcohol or mercury.
18. To flow an electric current in a contiuous circuit, two different metals are needed by us.
19. The height to where it rises is calibrated to indicate temperature.
20. Some advance thermocouple instruments are equiged doing the claculation automatically,

GOOD LUCK

LEMBAR JAWABAN GRAMMAR **TEST**

Nama :

Nrp :

BAGIAN A

1.	**a.**	b.	c.	d.	9.	a.	b.	c.	**d.**
2.	a.	b.	c.	d.	10.	a.	b.	c.	d.
3.	a.	**b.**	c.	d.	11.	a.	b.	c.	d.
4.	a.	b.	c.	d.	12.	a.	b.	c.	d.
5.	a.	**b.**	c.	d.	13.	a.	b.	c.	d.
6.	a.	**b.**	c.	d.	14.	a.	b.	c.	d.
7.	a.	b.	c.	**d.**	15.	a.	b.	c.	d.
8.	a.	**b.**	c.	d.					

BAGIAN B

16.	B	S
17.	B	S
18.	B	S
19.	B	S
20.	B	S

PRETESTING OF READING COMPREHENSION TEST

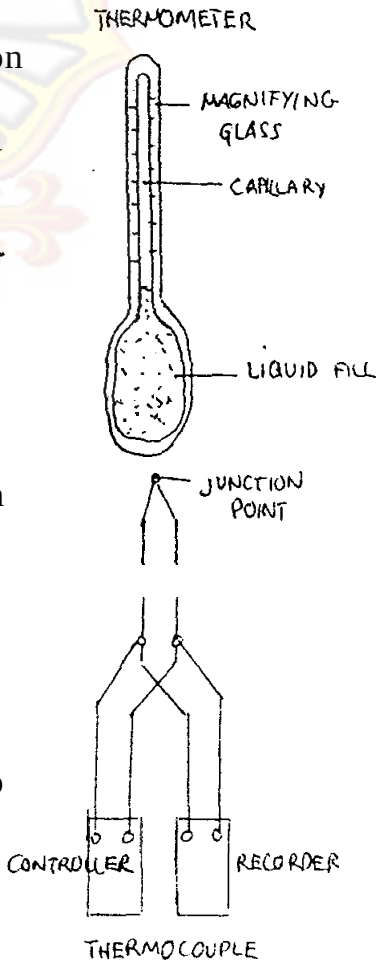
Waktu : 40 menit

Petunjuk :

A. Bacalah wacana ini dengan baik sebelum saudara menyilang jawaban yang paling tepat pada soal yang tersedia.

The two basic instruments for measuring temperature are the thermometer and thermocouple. The basic design of the thermometer is familiar. It consists of a tube usually glass, which contains a liquid that expands or contracts depending on the temperature to which it is exposed. As it expands it rises in the tube- the height to which it rises is calibrated to indicate temperature. Depending on the temperatures to be measured, the liquid in the tube is usually colored alcohol or mercury.

The second most common temperature-measuring device is the thermocouple. It is based on the discovery in 1821, by the German physicist, Thomast J. Seebeck, that an elctrict current flows in a continuous circuit composed of two different metals if the two junctions between the two metals are at different temperatures. One junction is placed at the peint where the temperature is to measured: the other is usually



in the instrument used to measure the current. The current that flows in the circuit depends on the difference between the two temperatureo. Since the temperature in the instrument is easily found (by using a thermometer), the other temperature can be calculated. Some advanced thermocouple instruments are equipped to do the calculation automatically - on these, the desired temperature can be read directly. Since the output of the thermocouple is electrical, it is frequently chosen to be used with other electrical or electronic instruments.

Soal

1. The information in this passage centers about thermometer and thermocouple's :
   a. relationship
   b. function
   c. effectiveness
   d. work
2. The main idea of this passage is that :
   a. thermometer is more effective in measuring temperature.
   b. thermometer and thermocouple are the instrument to measure temperature.
   c. thermometer and thermocouple function as plant's instrument.
   d. thermometer and thermocouple use mercury to indicate temperature.
3. The two junctions between the two metals in a thermocouple will be different if the electric current :
   a. stops
   b. disappears
   c. moves
   d. remains

4. The output of the thermocouple is :
   a. electrical
   b. temperature
   c. pressure
   d. flow
5. Thermometer consists of a glass which contains a liquid that expands or contracts depending on the temperature to which it is expoaed. Contract is similar to :
   a. develop
   b. increase
   c. decrease
   d. stop
6. According to this passage, thermometer and thermocouple are the same in :
   a. form
   b. function
   c. effectiveness
   d. work
7. In thermocouple, the temperature which will be measured is in
   a. controller
   b. circuit
   c. junction point
   d. recorder
8. The author would inform the reader to understand about :
   a. the electrical instrument of thermocouple.
   b. the function of thermometer and thermocouple.
   c. the work of.thermometer and thermocouple.
   d. the picture of thermometer and thermocouple.
9. The second most common temperature measuring device is .....
   a. tool
   b. instrument
   c. type
   d. function
10. To know the temperature of your body, you need a :
   a. thermocouple
   b. thermometer
   c. thermometer wells
   d. pyrometer

B. Tulislah jawaban saudara di kertas jawaban dengan Bahasa Indonesia yang jelas.

1. Ceritakan dengan jelas bagaimana cara kerja thermometer dalam mengukur suhu.
2. Ceritakan dengan jelas bagaimana cara kerja thermocouple dalam mengukur suhu.

GOOD LUCK

REAL READING COMPREHENSION TEST

I. Tujuan dari test di bawah ini ialah :
- mengukur penguasaan reading comprehension siswa yang terdiri atas penguasaan :
  - A. Subject matter
  - B. Generalization
  - C. Details
  - D. Vocabularies
  - E. Significance
  - F. Appliance
  - G. Conclusion

II. Waktu untuk mengerjakan test ini : 40 menit

III. Bentuk test : objective test
subjective test

IV. Petunjuk mengerjakan test :

A. Silanglah jawaban yang paling tepat di kertas jawaban saudara.

- What is the passage about ?
  - A. thermometer
  - B. thermodynamecs
  - C. thermostat
  - D. thermocouple

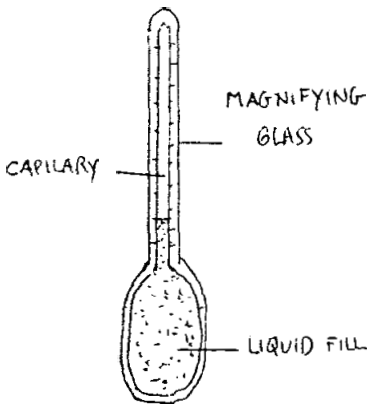
Pada lembar jawaban: bubuhkan tanda silang pada jawaban yang paling tepat.

A. B. C. D.

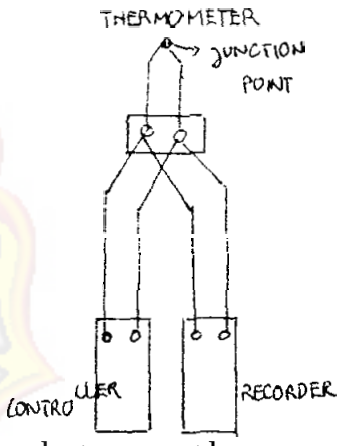
Bacalah baik-baik wacana di bawah ini sebelum saudara mengerjakan soal.

The two basic instruments for measuring temperature are the thermometer and the thermocouple. The basic design of the thermometer is familiar. It consists of a tube,usually glass, which contains a liquid that expands or contracts depending on the temperature to which it is exposed. As it expands it rises in the tube- the height to which it rises is calibrated to indicate temperature.

Depending on the temperatures to be measured, the liquid in the tube is usually colored alcohol or mercury.



The second most common temperature measuring device is the thermocouple. It is based on the discovery in 1821, by the German physicist, Thomast J. Seeback, that an electrict current flows in a continuous circuit composed of two different metals if the two junctions between the two metals are at different temperatures. One junction is placed at the point where the temperature is to be measured; the other is usually in the instrument used to measure the current. The current that flows in the circuit depends on the difference between the two temperatures. Since the temperature in the instrument is easily found (by using a thermometer) the other temperature can be calculated. Some advanced thermocouple instruments are equipped to do the calculation automatically– on these, the desired temperature can be read directly. Since the output of the thermoaouple is electrical, it is frequently chosen to be used with other electrical or electronic instruments.



SOAL

1. The information in the passage centers about thermometer and thermocouple's
   a. relationship
   b. function
   c. effectiveness
   d. work

2. The main idea of this passage is that :
   a. Thermometer and thermocouple's work in measuring temperature are efficient.
   b. Thermometer and thermocouple are instruments to measure temperature.
   c. Thermometer and thermocouple are the best instrument to measure temperature.
   d. Thermometer and thermocouple 's work in measuring temperature are different.
3. The two junctions between the two metals in a thermocouple will be different if the electric current ....
   a. stops
   b. disappears
   c. moves
   d. remains
4. Thermocouple is effective to measure temperature with other electrical instruments because it produces .....
   a. electicity
   b. temperature
   c. heat
   d. movement
5. Thermometer consists of a glass which contains a liquid that expands or contracts depending on the temperature to which it is exposed : Expand is similar to :
   a. develop
   b. increase
   c. deccease
   d. jump
6. According to this passage, we know that thermometer and thermocouple
   a. need the same way to operate
   b. work in the same way
   c. give the same function
   d. show the same effectiveness
7. In thermocouple, the temperature which will be measured is in

a. controller
b. circuit
c. junction point
d. recorder

8. The author would inform the reader to understand about :
   a. the electical instrument of thermocouple
   b. the function of thermometer and thermocnuple
   c. the work of thermometer and thermocouple
   d. the picture of thermometer **and** thermocouple
9. The second most common temperature measuring device is ..... .
   The synonym of device is
   a. thermocouple
   b. instrument
   c. type
   d. function
10. To measure temperature of your body exactly, your doctor will put ..... .
    a. his hand on your forehead
    b. thermometer in your mouth
    c. thermometer in your hand
    d. thermocouple in your mouth

B. Petunjuk mengerjakan test :
   Jelaskan jawaban saudara di kertas jawaban gang tersedia dengan menggunakan Bahasa Indonesia yang jelas.
   1. Ceritakan dengan jelas bagaimana cara kerja thermometer dalam mengukur suhu.
   2. Ceritakan dengan jelas bagaimana cara kerja thermocouple dalam mengukur suhu.

GOOD LUCK

LEMBAR JAWABAN READING COMPREHENSION TEST

Nama :

Nrp :

Bagian A

1.	a.	b.	c.	d.	6.	a.	b.	c.	d.
2.	a.	b.	c.	d.	7.	a.	b.	c.	d.
3.	a.	b.	c.	d.	8.	a.	b.	c.	d.
4.	a.	b.	c.	d.	9.	a.	b.	c.	d.
5.	a.	b.	c.	d.	10.	a.	b.	c.	d.

Bagian B

1.

2.