

SCIENCE FORM 3

MODULE 2: BLOOD CIRCULATION AND TRANSPORT

Arahan:

1. Modul ini mengandungi **tiga puluh enam** soalan. Semua soalan adalah dalam bahasa Inggeris.
2. Modul merangkumi **enam** konstruk yang diuji
K1-Memahami soalan dalam Bahasa Inggeris
K3-Memahami istilah sains dalam Bahasa Inggeris
K5-Menguasai konstruk pengetahuan
K6-Menguasai konstruk kefahaman
K7-Menguasai konstruk kemahiran
K10-Memahami pengajaran dan pembelajaran dalam Bahasa Inggeris
3. Murid hendaklah menulis maklumat diri dalam kertas jawapan objektif disediakan. Murid juga perlu memastikan maklumat konstruk, nombor soalan dan jumlah soalan seperti yang dibaca oleh guru di dalam ruangan disediakan dalam kertas jawapan objektif sebelum ujian.
4. Bagi **soalan objektif**, anda perlu menandakan jawapan dengan **menghitamkan pilihan jawapan** pada pilihan jawapan **A** , **B** , **C** atau **D** pada kertas jawapan objektif.

Contoh:

Antara berikut, yang manakah haiwan?

A. Pokok B. Kambing C. Kereta D. Pen

A

B

C

D

E

5. Jawab **semua** soalan.

Modul ini mengandungi **18** halaman bercetak

1. The heart pumps blood to all parts of the body.
What is the function of the heart?
 - A Sends blood to all parts of the body
 - B Produces blood to be used by the body
 - C Destroys the blood cell used by the body
 - D Increases the quantity of blood in the body

2. A red blood cell will die after the fourth month.
How long can a blood cell live?
 - A 3 months
 - B 4 months
 - C 5 months

3. Humidity, surface area, temperature, altitude, light intensity and movement of air are the factors that affect transpiration in a plant.
How many factors that affect the transpiration in a plant?
 - A 1
 - B 3
 - C 4
 - D 6

4. The structure of our heart can be divided into different parts, namely the left atrium, left ventricle, right atrium and right ventricle.
How many parts do our heart have?
 - A 2
 - B 3
 - C 4
 - D 5

5.

The phloem and xylem are two main transport tissues which are grouped together to form the vascular bundle.

Vascular bundle consists of _____

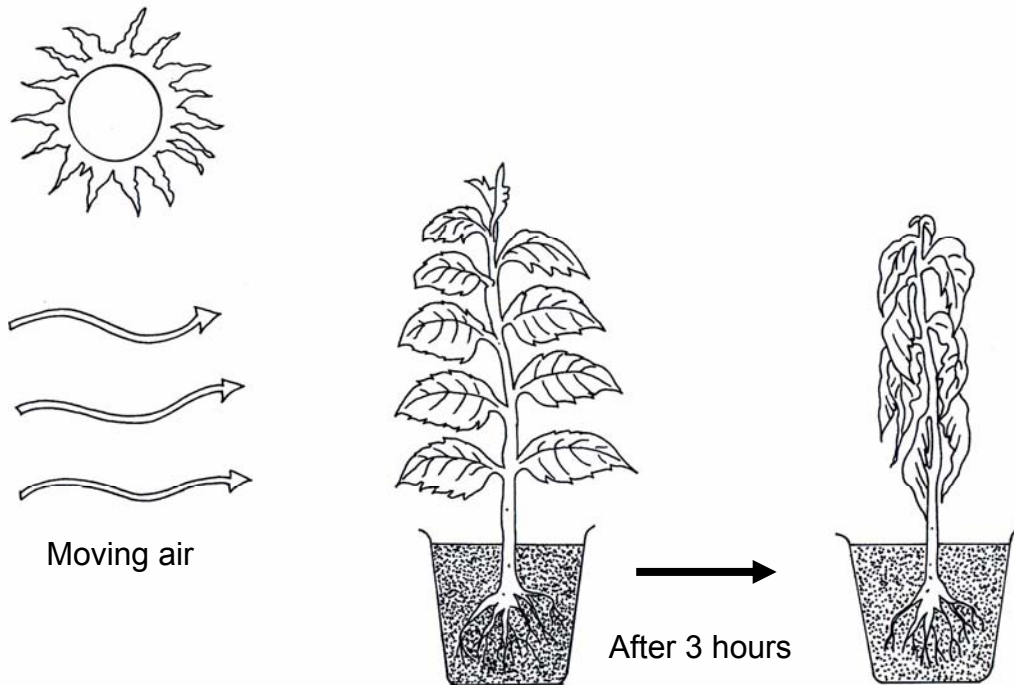
- A xylem only
- B phloem only
- C xylem and phloem

6.

The most abundant component in blood is plasma.
This means that the plasma _____

- A is the most component in blood.
- B is the smallest component in blood.
- C consists of red blood cell, white blood cell and platelets.

7. The figure shows a plant exposed to sunlight for three hours.



What is the process in which plants lose water by evaporation through the stomata?

- A Transpiration
 - B Transfusion
 - C Translocation
8. "Blood that flows in the arteries has a high concentration of oxygen and a low concentration of carbon dioxide"
It is referred to as _____
- A deoxygenated blood
 - B oxygenated blood
 - C white blood cell
 - D blood plasma

9. The blood travels from the heart to all parts of the body, and then back to the heart is known as _____

- A Systemic circulation
- B Pulmonary circulation
- C Body circulation

10. Individuals with blood group AB can receive blood from any blood group. They are known as the _____

- A universal donors
- B universal recipients
- C universal givers

11. The small openings found on the surface of the leaves are called _____

- A xylem
- B stomata
- C vacuole
- D phloem

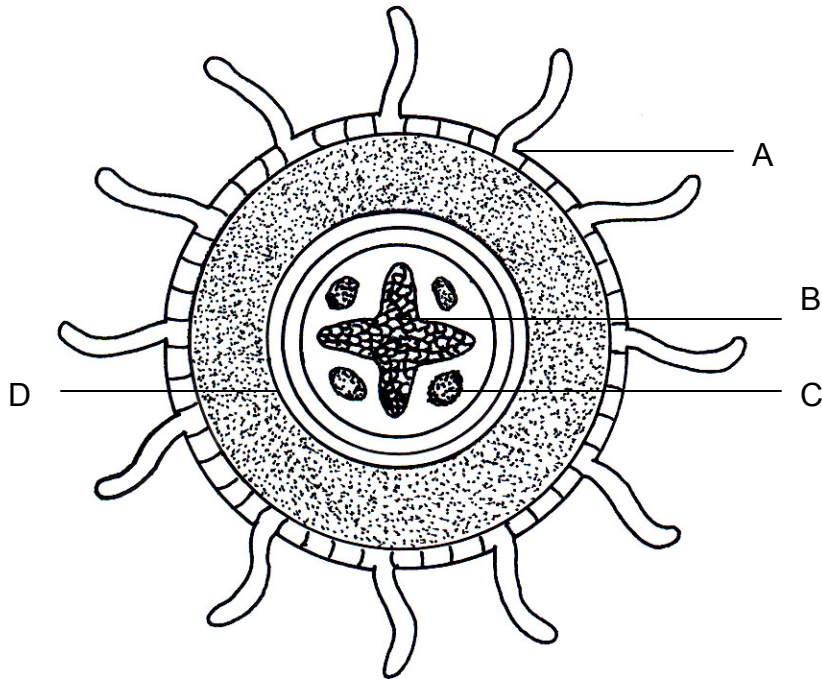
12. Which of the following donor's and recipient's blood groups are **not** compatible?

	Donor's blood group	Recipient's blood group
A	AB	O
B	A	AB
C	B	AB
D	O	O

13. In a human heart, the backflow of blood from the left ventricle to the left atrium is prevented by _____
- A vena cava
 - B capillary
 - C aorta
 - D D valve
14. Which of the following controls the closing and opening of the stoma?
- A Epidermis cell
 - B Guard cell
 - C Phloem
 - D Xylem
15. The function of a white blood cell is to _____
- A transport carbon dioxide
 - B fight against diseases
 - C transport oxygen
 - D clot the blood
16. In a systemic circulation, the blood flows from the heart to all parts of the body and then back to the heart.
Which part of the body is **not** involved in the systemic circulation?
- A Lungs
 - B Kidney
 - C Heart
 - D Liver

17. The main function of the heart is to_____
- A oxygenate the blood
 - B produce blood in the body
 - C ensure blood flows in one direction
 - D pump blood to all parts of the body
18. Which of the following factors affect the rate of transpiration?
- I Moving air
 - II Light intensity
 - III Humidity
- A I and II
 - B I and III
 - C II and III
 - D I, II and III

19. The figure shows a cross section of the root of a dicotyledonous plant.



Which structure is phloem?

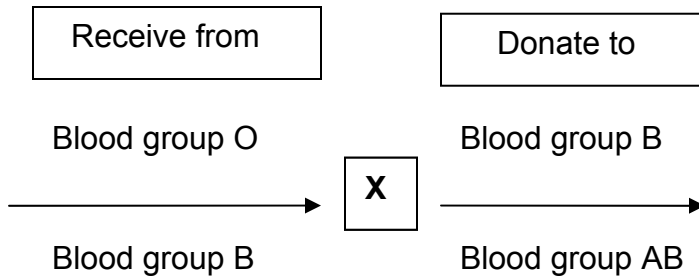
20.

Blood group A can receive blood from blood group A and O
Blood group B can receive blood from blood group B and O

Siti is of blood group AB. The possible blood group donor for Siti is/are

- A AB only
- B AB and O
- C A, B and O
- D A, B, AB and O

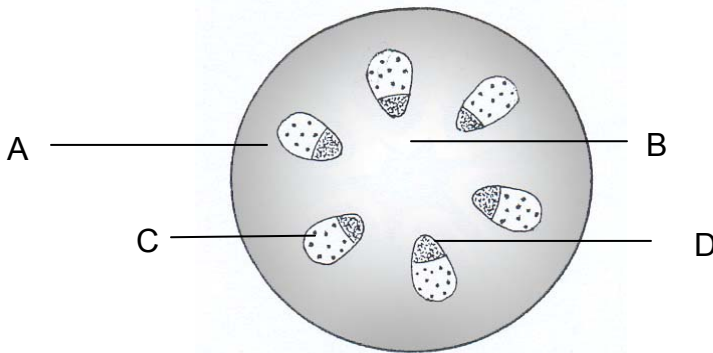
21. The figure shows the blood group compatibility.



Based on the figure, X has a blood group _____

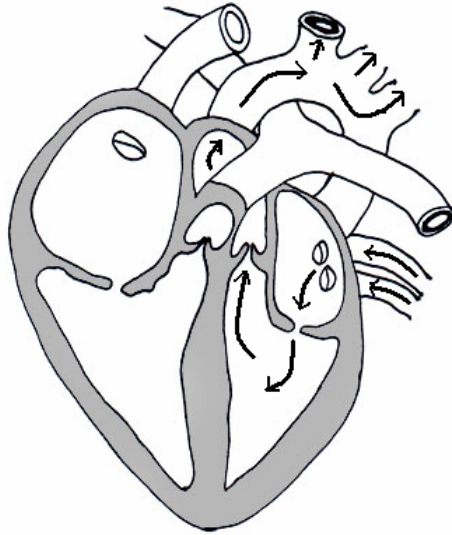
- A A
- B B
- C O
- D AB

22. The figure shows the cross-section of a plant stem immersed in a dilute red-coloured ink for a few hours.



Which part is stained red?

23. The figure shows the circulation of blood on the left side of a heart.



The blood is bright red because _____

- A it is rich in oxygen
- B it is nearest to the lungs
- C it is rich in haemoglobin
- D it contains red blood cell

24.

- Arteries transport blood away from the heart
- Veins transport blood to the heart.
- Arteries have thicker walls than veins

These characteristics enable arteries to _____

- A prevent blood from leaking out
- B prevent the walls from collapsing
- C withstand the high pressure of the blood pumped by the heart
- D withstand the low pressure of the blood pumped by the heart.

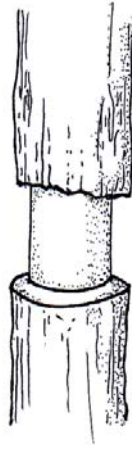
25. Table shows two components of blood P and Q.

Component	Function
P	Helps the blood to clot
Q	Transports oxygen

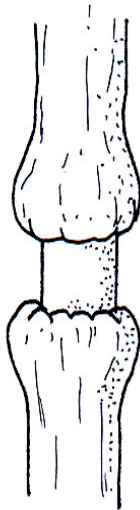
Components P and Q are _____

	P	Q
A	plasma	platelets
B	red blood cells	white blood cells
C	platelets	red blood cells
D	platelets	white blood cells

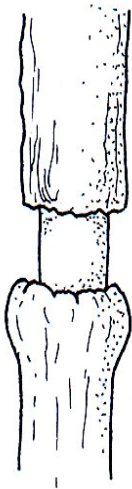
26. An experiment is carried out to study how food is transported in a dicotyledonous plant.
A ring of bark and phloem in a stem is removed.



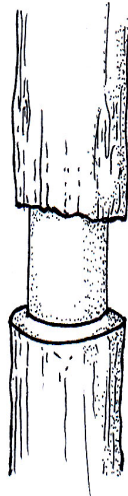
Choose the **correct** observation after a month.



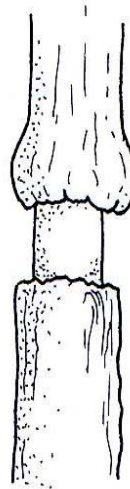
A



B



C



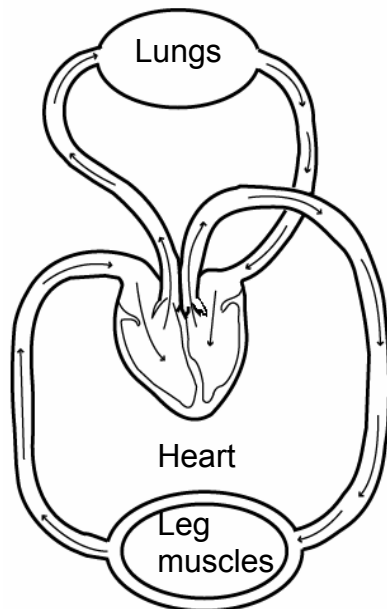
D

27. Lungs, left atrium, left ventricle and right ventricle are parts of a blood circulatory system.

Arrange the parts in **correct** order of blood flow.

- A Lungs → left atrium → left ventricle → right ventricle
- B Right ventricle → lungs → left atrium → left ventricle
- C Lungs → left ventricle → right ventricle → left atrium
- D Right ventricle → left atrium → lungs → left ventricle

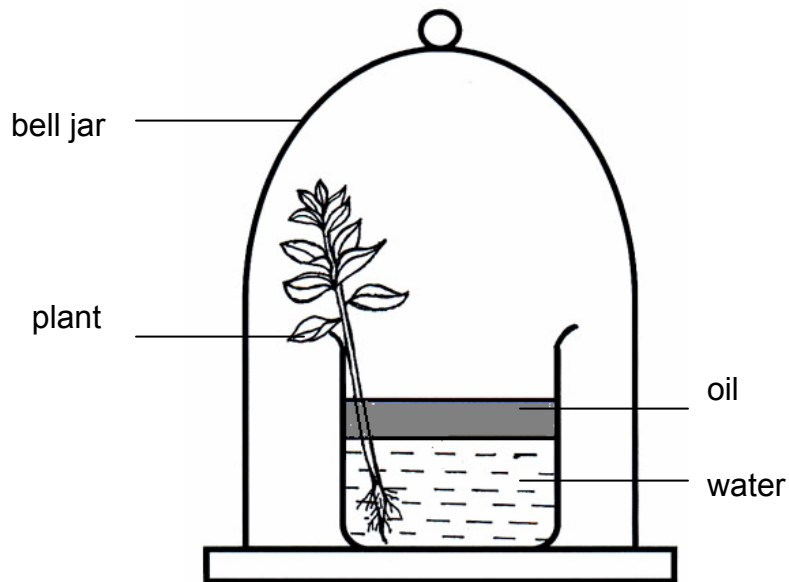
28. The figure shows the blood circulatory system



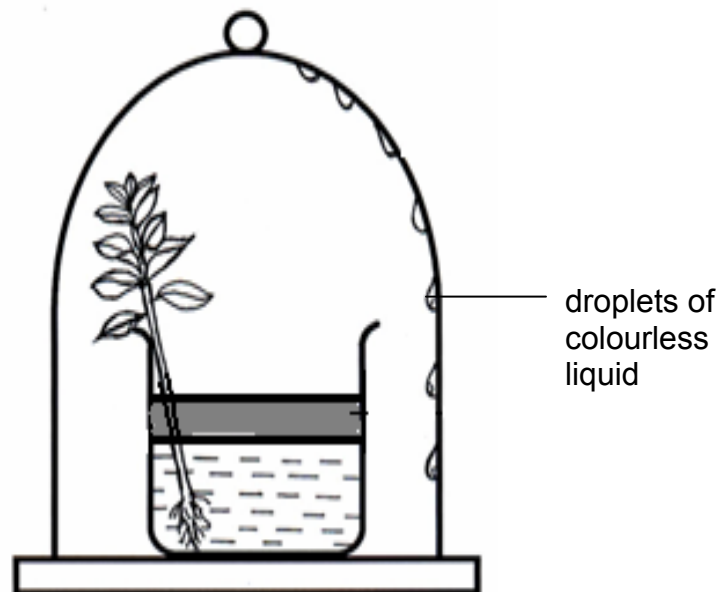
Choose the **correct** sequence that shows the pathway of oxygenated blood from the lungs to the leg muscles

- A Lung → vena cava → right atrium → right ventricle → pulmonary artery → leg muscles
- B Lung → pulmonary artery → right ventricle → right atrium → vena cava → leg muscles
- C Lung → pulmonary vein → left atrium → left ventricle → aorta → leg muscles
- D Lung → aorta → left ventricle → left atrium → pulmonary vein → leg muscles

29. The diagram shows a balsam plant immersed in a beaker and placed under a large bell jar for three hours.



Beginning of the experiment

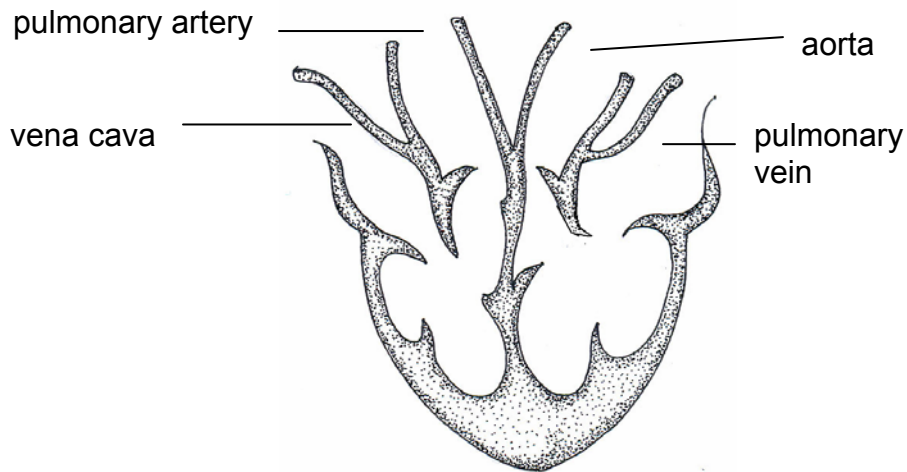


After 3 hours

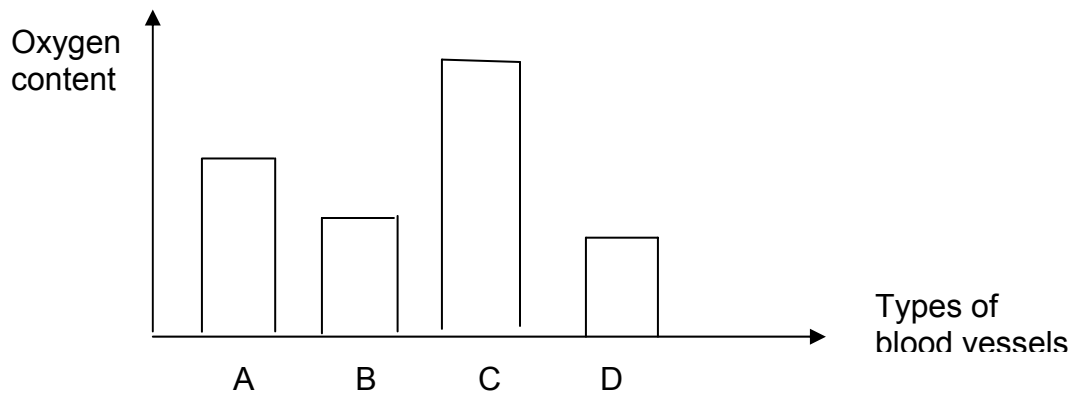
What is the conclusion for this experiment?

- A Water evaporates and form droplets on the bell jar
- B Plants lose water through transpiration
- C Plants need water to live
- D The air in the bell jar forms droplets of colourless liquid.

30. The figure shows the major blood vessels of a heart.

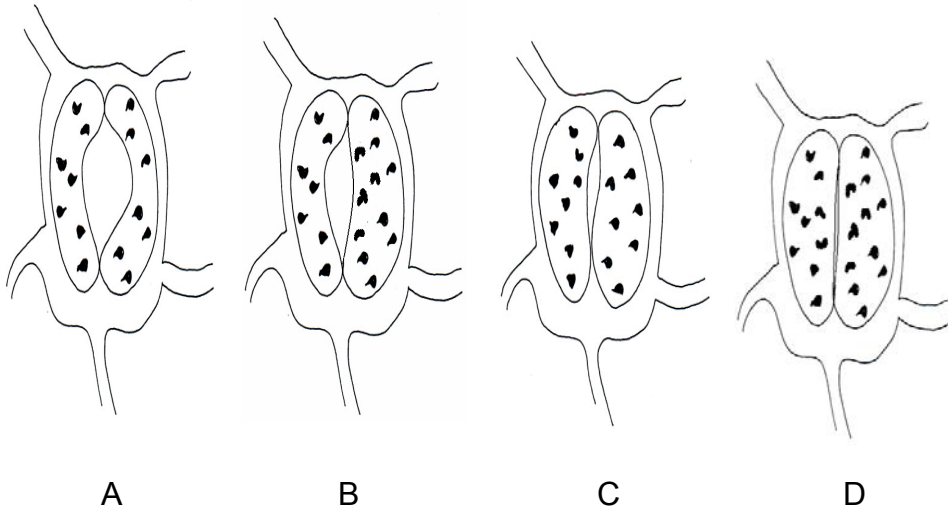


Graph shows the oxygen content in the blood taken from four types of blood vessels.



Based on the graph, identify which bar represent the oxygen content in a pulmonary vein.

31. The opening of stomata results in the loss of water by transpiration. On hot day, stoma is closed to reduce water loss. Which diagram represents the opening of stomata when observed under a microscope at 1 pm?



32. Choose the **correct** statement.
- A The oxygenated blood flows into the left atrium first then to the pulmonary veins
 - B The oxygenated blood flows through the pulmonary veins to the left atrium
 - C The oxygenated blood flows through the pulmonary veins to the lungs
33. Universal donors can receive blood from_____
- A blood group A only
 - B blood group AB only
 - C blood group O only

34. What is the substance that is transported to all parts of the plants by phloem?
- A water
 - B mineral salts
 - C glucose
35. What are the features of xylem vessels?
- I Thick walls
 - II Thin walls
 - III Strong walls
- A I and II
 - B I and III
 - C II and III
36. Which of the following statements are **correct**?
- I When the surrounding temperature is lower, the rate of transpiration is low.
 - II When the surrounding temperature is higher, the rate of transpiration is high.
 - III When the surrounding temperature is lower, the rate of transpiration is high.
- A I and II
 - B I and III
 - C II and III



KEMENTERIAN PELAJARAN MALAYSIA
KERTAS JAWAPAN OBJEKTIF
Ujian Diagnostik



Nama Pelajar:

Tahun/ Tingkatan : 3 Mata Pelajaran: SAINS

Nama Sekolah: Modul: 2

**GUNAKAN PENSIL 2B ATAU BB SAHAJA.
TENTUKAN TIAP-TIAP TANDA ITU HITAM DAN MEMENUHI KESELURUHAN RUANG.
PADAMKAN HINGGA HABIS MANA-MANA TANDA YANG ANDA UBAH
SILA HITAMKAN JAWAPAN DI BAWAH MENGIKUT HURUF JAWAPAN YANG ANDA PILIH**

1 (A) (B) (C) (D) (E)

2 (A) (B) (C) (D) (E)

3 (A) (B) (C) (D) (E)

4 (A) (B) (C) (D) (E)

5 (A) (B) (C) (D) (E)

6 (A) (B) (C) (D) (E)

7 (A) (B) (C) (D) (E)

8 (A) (B) (C) (D) (E)

9 (A) (B) (C) (D) (E)

10 (A) (B) (C) (D) (E)

11 (A) (B) (C) (D) (E)

12 (A) (B) (C) (D) (E)

13 (A) (B) (C) (D) (E)

14 (A) (B) (C) (D) (E)

15 (A) (B) (C) (D) (E)

31 (A) (B) (C) (D) (E)

32 (A) (B) (C) (D) (E)

33 (A) (B) (C) (D) (E)

34 (A) (B) (C) (D) (E)

35 (A) (B) (C) (D) (E)

36 (A) (B) (C) (D) (E)

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42 (A) (B) (C) (D) (E)

43 (A) (B) (C) (D) (E)

44 (A) (B) (C) (D) (E)

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30 (A) (B) (C) (D) (E)

<u>Konstruk</u>	<u>No. Soalan</u>	<u>Jumlah Soalan</u>	<u>Bilangan Soalan Gagal Dijawab</u>	<u>Kegunaan Guru</u>	
1	K1	1-6	6	<input type="checkbox"/>	<input type="checkbox"/>
2	K3	7-10	4	<input type="checkbox"/>	<input type="checkbox"/>
3	K5	11-19	9	<input type="checkbox"/>	<input type="checkbox"/>
4	K6	20-23	4	<input type="checkbox"/>	<input type="checkbox"/>
5	K7	24-31	8	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	K10	32-36	5	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>