



Jawapan Praktis Pengukuhan

Bab 1

1. kepelbagaian
variety
2. habitat; cuaca
habitats; climates
3. sumber makanan; bahan mentah
food sources; raw materials
4. pupus
extinct
5. (a) mengharamkan; denda
Banning; compounds
(b) habitat; taman negara; hutan simpan; santuari
habitats; national parks; forest reserves; sanctuaries
(c) endemik
endemic
(d) kesedaran
awareness
(e) Menanam semula
Replanting
6. (a) mempunyai tulang belakang
have a backbone
(b) tidak mempunyai tulang belakang
do not have a backbone
7. ikan; burung; mamalia
fish; birds; mammals
8. ciri-ciri sepunya
common characteristics



Jawapan Praktis Pengukuhan

Bab 2

1. Pengeluar
Producers
2. Pengguna
Consumers
3. Pengurai
Decomposers
4. herbivor; omnivor; karnivor
herbivores; omnivores; carnivores
5. Rantai makanan
food chain
6. Siratan makanan
food web
7. kitar oksigen; kitar karbon; kitar air
oxygen cycle; carbon cycle; water cycle
8. oksigen; karbon dioksida
oxygen; carbon dioxide
9. oksigen; karbon dioksida
oxygen; carbon dioxide
10. Transpirasi; penyejatan
transpiration; evaporation
11. (a) penebangan hutan
logging
(b) Penanaman semula
Replanting
(c) Sistem pertanian
agriculture system
(d) awam
public
(e) menyiram pokok dan membasuh kenderaan
water plants and washes vehicles
12. (a) Habitat
Habitat
(b) ciri-ciri yang sama; membiak
similar characteristics; reproduce
(c) spesies
species
(d) Komuniti
Community
(e) organisma hidup; benda bukan hidup
living organisms; non-living things
13. suhu persekitaran; cahaya; kelembapan
surrounding temperature; light; humidity



Jawapan Praktis Pengukuhan

Bab 3

1. (a) Protein
Protein
(b) Air
Water
(c) Karbohidrat
Carbohydrate
(d) Pelawas
Fibre
2. (a) Protein
Protein
(b) Pelawas
Fibre
(c) Vitamin
Vitamin
(d) Air
Water
(e) Lemak
Fat
(f) Karbohidrat
Carbohydrate
3. (a) Rabun malam
Night-blindness
(b) Beri-beri
Beriberi
(c) Skurvi
Scurvy
(d) Riket
Ricket
(e) Kemandulan
Sterility
(f) Pendarahan berpanjangan
Prolonged bleeding
4. (a) Membina tulang dan gigi yang kuat
Builds strong bones and teeth
(b) Kekejangan otot
Muscle cramp
(c) Besi
Iron
(d) Iodin
Iodine
(e) Membina tulang dan gigi yang kuat
Builds strong bones and teeth
(f) Lumpuh, kekejangan otot
Paralysed, muscle cramp
5. kelas makanan; kuantiti
food classes; quantities
6. (a) Umur
Age
(b) Jantina
Gender
(c) Aktiviti fizikal
Physical activities
7. Nilai kalori
Calorific value
8. kalori (cal); joule (J); 4.2; 4.2
calorie (cal); joule (J); 4.2; 4.2
9. dianggarkan
estimated
10. besar; kompleks; molekul-molekul; diserap
large; complex; molecules; absorbed
11. Esofagus; Duodenum; Usus kecil; Rektum
Oesophagus; Duodenum; Small intestine; Rectum



Jawapan Praktis Pengukuhan

Bab 4

1. (a) Penyakit berjangkit
Infectious diseases
(b) Penyakit tidak berjangkit
Non-infectious diseases
2. patogen; sentuhan; vektor
pathogens; contact; vectors
3. kolera (taun); demam kepialu; disentri ameba
cholera; typhoid fever; amoebic dysentery
4. (a) sanitasi
sanitation
(b) klorin
chlorine
(c) Mendidihkan
Boil
(d) sabun
soap
5. (a) Jangkitan titisan
Droplet transmission
(b) Jangkitan habuk
Dust transmission
6. (a) mulut dan hidung
mouth and nose
(b) meludah
spitting
(c) penuh sesak
crowded
(d) sinar ultraungu
ultraviolet rays
7. tersentuh; memakai
touches; wears
8. kurap; panau; kulat
ringworm; tinea ; fungi
9. haiwan
animals
10. nyamuk; tikus; lalat
mosquitoes; rats; flies
11. pertama dan kedua
first and second
12. ketiga; antibodi; limfosit
third; antibody; lymphocytes
13. Patogen
Pathogens
14. Antigen
antigen
15. Antibodi
antibody
16. Keimunan
Immunity



Jawapan Praktis Pengukuhan

Bab 5

1. (a) 0°C
(b) 100°C
(c) Tidak berwarna
Colourless
(d) 1 g cm⁻³
(e) Tinggi
High
2. oksigen; hidrogen
oxygen; hydrogen
3. merendahkan; meninggikan
lowers; increases
4. Suhu persekitaran; kelembapan; pergerakan udara; luas permukaan air yang terdedah
Surrounding temperature, humidity, air movement and exposed surfaced area of water
5. Pelarut
Solvent
6. Zat terlarut
Solute
7. Larutan
Solution
8. sedikit; banyak; maksimum
little; a lot of; maximum
9. Larutan
solution
10. Ampaian
suspension
11. (a) bendasing
impurities
(b) Oksigen
Oxygen
(c) Alum; kapur mati
Alum; slaked lime
(d) termendak
settle
(e) zarah-zarah terampai
suspended particles
(f) klorin; natrium florida
Chlorine; sodium fluoride
12. berkurangan
decrease
13. Industri; pertanian; domestik; pembalakan; pembinaan
industrial; agriculture; domestic; logging; construction
14. (a) tindakan undang-undang
legal actions
(b) Merawat
Treating
(c) racun perosak dan baja
pesticides and fertilisers
(d) pelupusan sisa
waste disposal
(e) sumber air
water resources



Jawapan Praktis Pengukuhan

Bab 6

1. ion hidrogen, H^+
hydrogen ions, H^+
2. ion hidroksil, OH^-
hydroxyl ions, OH^-
3. (a) Masam; Pahit
Sour; Bitter
(b) Tidak licin; Licin
Not slippery; Slippery or soapy
(c) Bertukar kepada merah; Tiada perubahan
Turns red; No change
(d) Tiada perubahan; Bertukar kepada biru
No change; Turns blue
(e) pH 1 – pH 6; pH 8 – pH 14
(f) Bertindak balas dan membebaskan gas hidrogen; Tidak bertindak balas
Reacts and releases hydrogen gas; No reaction
4. garam; air
salt; water
5. (a) beralkali; asid
alkaline; acid
(b) berasid; beralkali; lembut
acidic; alkaline; soft
(c) Kapur mati
slaked lime



Jawapan Praktis Pengukuhan

Bab 7

1. kerja; joule (J)
work; joule (J)
2. proses-proses hidup; bergerak; makanan
life processes; move; food
3. (a) bergetar
vibrating
(b) bergerak
moving
(c) cas elektrik
electric charge
(d) kedudukannya; keadaannya
position; condition
(e) cahaya
light
(f) nukleus
nucleus
(g) panas
hot
(h) bahan kimia
chemicals
4. pegun
do not move
5. digosok
rubbed
6. arus elektrik; Galvanometer
electric current; Galvanometer
7. rintangan
resistance
8. (a) sama; rintangan
same; resistance
(b) suis
switch
(c) meningkatkan
increases
(d) Menjimatkan
Save
(e) tidak berfungsi
do not function
(f) bertambah; bertambah
increase; increase
(g) tidak boleh
cannot
9. (a) berasingan
individually
(b) masih boleh
can still
(c) tidak menjejaskan
does not jeopardise
(d) sama
same
(e) wayar
wires
(f) Kuasa sel
cell power
10. sama
similar
11. hasil tambah
total amount
12. kutub
poles
13. utara; selatan
north; south
14. kuat
stronger
15. (a) lebih besar
bigger
(b) arah arus
current flow

16. genggaman tangan kanan
right-hand grip
17. (a) lilitan; garis medan magnet
turns; magnetic field lines
(b) kuat
stronger



Jawapan Praktis Pengukuhan

Bab 8

1. tolakan; tarikan
push; pull
2. (a) Daya normal
Normal force
(b) Daya graviti
Gravitational force
(c) Daya apungan
Buoyant force
3. newton, N
4. tarikan graviti
gravitational
5. 1 N; 10 N
6. neraca spring
spring balance
7. berat; bertambah
weight; increases
8. magnitud (kuantiti); arah; titik aplikasi
magnitude (quantity); direction; point of application
9. sama; bertentangan
similar; opposite
10. pegun; kelajuan; arah
static; speed; direction
11. rendah; tinggi
lower; higher
12. fulkrum; beban; daya
fulcrum; load; effort
13. (a) Tuas kelas pertama
First class level
(b) Tuas kelas kedua
Second class level
(c) Tuas kelas ketiga
Third class level
14. kecil; besar
Smaller; larger
15. (a) meningkat
increases
(b) dimampatkan
compressed
(c) isi padu
volume
16. rendah
lower
17. tinggi
higher



Jawapan Praktis Pengukuhan

Bab 9

1. tenaga; suhu; joule (J)
energy; temperature; joule (J)
2. panas; sejuk
hot; cold
3. kepanasan; kesejukan; kelvin (K)
hotness; coldness; kelvin (K)
4. zarah-zarah; tinggi
particles; higher
5. konduksi; perolakan; sinaran
conduction; convection; radiation
6. bayu laut; bayu darat
land breeze; sea breeze
7. Perolakan; konduksi; sinaran
Convection; conduction; radiation
8. Konduktor; penebat
conductor; insulator

9.		Dipanaskan <i>Heated</i>	Disejukkan <i>When cooled</i>
	Pepejal <i>Solid</i>	lebih cepat; berjauhan <i>faster; further apart</i>	lebih perlahan; berdekatan <i>slower; closer together.</i>
	Cecair dan gas <i>Liquid and gas</i>	lebih cepat; berjauhan <i>faster; further apart</i>	lebih perlahan; berdekatan <i>slower; closer together</i>

10. (a) Ruang
Joints
(b) Merkuri; perubahan suhu
Mercury; change of temperature
(c) Ruang kecil
Small gaps
(d) bahan lembut
soft materials
(e) Jalur dwilogam
Bimetallic strips
11. jenis; warna
type; colour
12. gelap; kusam; cerah; berkilat
Dark; dull; white; shiny



Jawapan Praktis Pengukuhan

Bab 10

1. getaran
vibrations
2. (a) medium
medium
(b) dipantul; diserap
reflected; absorbed
(c) pemantul; penyerap
reflector; absorber
(d) Kelajuan; pepejal; gas
speed; solid; gaseous
3. kenyaringan
louder
4. kelangsingan
pitch
5. frekuensi
frequency
6. Gema
echo
7. (a) Sonar
Sonar
(b) jarak
distance
(c) Sonogram
Sonogram
8. 20 Hz hingga 20 000 Hz
20 Hz to 20 000 Hz
9. (a) Pembesar suara
Speaker
(b) Stetoskop
Stethoscope
(c) Alat bantu pendengaran
Hearing aids



Jawapan Praktis Pengukuhan

Bab 11

1. Bima Sakti
Milky Way
2. bintang; tarikan graviti
stars; gravitational pull
3. cahaya; Matahari
Light; Sun
4. nebula
nebula
5. (a) Andromeda, Bimasakti
Andromeda, Milky Way
(b) Galaksi elips
Elliptical galaxy
(c) Awan Magellan kecil, Awan Magellan besar
Small Magellanic Cloud, Large Magellanic Cloud
6. (a) Bintang bersaiz sederhana
Medium-size star
(b) Bintang besar
Large star
(c) Bintang super besar
Superlarge star
(d) Kerdil putih
White dwarf
(e) Bintang neutron
Neutron star
(f) Lohong hitam
Black hole
7. (a) Bumi
Earth
(b) Sistem Suria
Solar System
(c) Bima Sakti
Milky Way
(d) Alam semesta
Universe
8. (a) Warna
Colour
(b) Suhu
Temperature
(c) Jarak
Distance
(d) Kecerahan
Brightness
(e) Saiz
Size



Jawapan Praktis Pengukuhan

Bab 12

1. Bumi; Matahari
Earth; Sun
2. setahun
a year
3. (a) 1.5×10^8 km
(b) 9.5×10^{12} km
4. sfera; bintang
sphere; star
5. (a) Utarid
Mercury
(b) Zuhrah
Venus
(c) Bumi
Earth
(d) Marikh
Mars
(e) Musytari
Jupiter
(f) Zuhhal
Saturn
(g) Uranus
Uranus
(h) Neptun
Neptune
6. barat; timur; Zuhrah; Uranus
west; east; Venus; Uranus
7. (a) kandungan air
water content
(b) cahaya matahari
sunlight
(c) lapisan atmosfera
atmosphere
(d) Julat suhu
temperature range
(e) tarikan graviti
gravitational pull
(f) kandungan oksigen
oxygen content
8. Jejak ekologi
Ecological footprint



Jawapan Praktis Pengukuhan

Bab 13

1. batu dan logam kecil
stone and metal
2. (a) 0°C
(b) 42 km s^{-1}
3. batuan besar dan logam
large metal and rocky body
4. (a) -73°C
(b) 25 km s^{-1}
(c) Marikh; Musytari
Mars; Jupiter
(d) Ceres, Pallas, Juno dan Vesta
Ceres, Pallas, Juno and Vesta
5. ais, gas dan debu beku
ice, gas and frozen dust
6. (a) kepala; ekor
head; tail
(b) 10 km s^{-1} ; 70 km s^{-1}