ENGLAND GCSE COMBINED SCIENCE OCR TWENTY FIRST CENTURY FOUNDATION · FINAL EXAM · 50 QUESTIONS

Final Exam — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Two pea plants with genotype Bb are crossed. What fraction of the offspring will show the recessive trait?**

- A 1/2
- B 1
- C 1/4
- D 3/4

Understand It with Pulse | Flag a mistake

2 **What does tobacco mosaic virus do to a plant?**

- A it causes mottled leaves
- B it stops the roots absorbing water
- C it makes the plant grow taller
- D it turns the flowers red

Understand It with Pulse | Flag a mistake

3 **Where is carbon stored long term?**

A in living organisms only

B in fossil fuels

C in rain water

D in the air as oxygen

Understand It with Pulse | Flag a mistake

4 **Why are school cultures incubated at 25 degrees Celsius, not 37 degrees Celsius?**

A to save electricity in the laboratory

B to stop the agar from melting

C to avoid growing microbes that harm humans

D to make the bacteria grow more slowly for counting

Understand It with Pulse | Flag a mistake

5 **What does oestrogen do?**

A it triggers ovulation

B it stimulates eggs to mature

C it maintains the lining after ovulation

D it thickens the uterus lining

Understand It with Pulse | Flag a mistake

6 **What is the correct order of classification, from largest to smallest?**

A species, genus, family, order, class, phylum, kingdom

B phylum, kingdom, class, family, order, genus, species

C kingdom, class, phylum, order, genus, family, species

D kingdom, phylum, class, order, family, genus, species

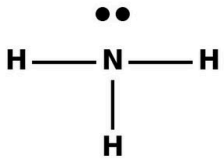
Understand It with Pulse | Flag a mistake

7 **How do humans increase carbon dioxide?**

- **A** by burning fossil fuels
- **B** by using solar power to make electricity
- **C** by recycling waste
- **D** by planting trees

Understand It with Pulse | Flag a mistake

8 **The diagram shows an ammonia molecule. How many covalent bonds does the nitrogen atom form?**



- **A** 4
- **B** 1
- **C** 2
- **D** 3

Understand It with Pulse | Flag a mistake

9 **Why is gold found uncombined in the Earth?**

A it is very reactive

B it is made by volcanoes

C it is very unreactive

D it dissolves in water

Understand It with Pulse | Flag a mistake

10 **What does a life cycle assessment compare?**

A the environmental impact of products

B the colour of products

C the strength of products

D the cost of products in shops over time

Understand It with Pulse | Flag a mistake

11 **What does a white precipitate show when silver nitrate is added?**

- A an alkali is present
- B a chloride is present
- C a sulfate is present
- D a carbonate is present

Understand It with Pulse | Flag a mistake

12 **A reaction makes 30 g of useful product from 50 g of reactants in total. What is the atom economy?**

- A 60%
- B 180%
- C 30%
- D 120%

Understand It with Pulse | Flag a mistake

13 **A wave has a frequency of 4 Hz and a wavelength of 3 m. What is its speed?**

- A 12 m/s
- B 7 m/s
- C 24 m/s
- D 6 m/s

Understand It with Pulse | Flag a mistake

14 **In a coal power station, what turns the turbine?**

- A coal directly
- B cold water
- C steam
- D wind

Understand It with Pulse | Flag a mistake

15 **What is the unit of resistance?**

A the ohm

B the watt

C the amp

D the volt

Understand It with Pulse | Flag a mistake

16 **Why does a faster car have a longer stopping distance?**

A the driver reacts faster

B it covers more distance overall

C its brakes work less well at speed

D the road gets longer

Understand It with Pulse | Flag a mistake

17 **A sample has an activity of 3200 counts per minute. After 2 half-lives, what is its activity?**

- A 3200
- B 800
- C 400
- D 1600

Understand It with Pulse | Flag a mistake

18 **How much energy is needed to heat 4 kg of a substance with a specific heat capacity of 2100 J per kg per degree Celsius by 20 degrees Celsius?**

- A 8400 J
- B 336000 J
- C 84000 J
- D 168000 J

Understand It with Pulse | Flag a mistake

19 **What causes Huntington disease?**

- **A** a recessive allele that acts at birth
- **B** a dominant allele acting late
- **C** a missing chromosome
- **D** a viral infection of the brain

Understand It with Pulse | Flag a mistake

20 **A vaccine is given to 19 out of every 20 people in a school of 200 pupils. How many pupils receive the vaccine?**

- **A** 10
- **B** 190
- **C** 209
- **D** 19

Understand It with Pulse | Flag a mistake

21 **A pondweed plant releases 24 bubbles of oxygen in 3 minutes. How many bubbles does it release per minute?**

- A 16
- B 7
- C 9
- D 8

Understand It with Pulse | Flag a mistake

22 **Which structure is found in a bacterial cell but not in an animal cell?**

- A a ribosome
- B a nucleus
- C a plasmid
- D a mitochondrion

Understand It with Pulse | Flag a mistake

23 **How does the body lose heat when it is too hot?**

A by vasoconstriction

B by growing hair

C by sweating

D by shivering

Understand It with Pulse | Flag a mistake

24 **What is a habitat?**

A a type of animal

B a food source

C a place to hide from danger

D an organism's home

Understand It with Pulse | Flag a mistake

25 **Which of these is endothermic?**

A photosynthesis

B neutralisation

C burning a fuel

D respiration

Understand It with Pulse | Flag a mistake

26 **Which group contains the alkali metals?**

A Group 1

B Group 0

C Group 2

D Group 7

Understand It with Pulse | Flag a mistake

27 **What forms at the anode during the electrolysis of molten lead bromide?**

A hydrogen

B bromine

C chlorine

D lead

Understand It with Pulse | Flag a mistake

28 **In a chromatogram, a spot moves 3 cm and the solvent moves 12 cm. What is the Rf value?**

A 0.35

B 0.4

C 0.25

D 0.5

Understand It with Pulse | Flag a mistake

29 **What is the end point of a titration?**

A the flask breaks

B the acid boils

C the solution freezes

D the colour changes

Understand It with Pulse | Flag a mistake

30 **What must particles have to react when they collide?**

A the right colour

B a catalyst with them

C enough energy

D the same mass

Understand It with Pulse | Flag a mistake

31 **Which type of radiation is used to cook food?**

A gamma rays

B microwaves

C X-rays

D ultraviolet

Understand It with Pulse | Flag a mistake

32 **A device transfers 1000 J of energy in 10 seconds. What is its power?**

A 10000 W

B 50 W

C 100 W

D 200 W

Understand It with Pulse | Flag a mistake

33 **A calculator runs on a small current. What is current measured in?**

A amperes

B ohms, the unit of resistance

C watts, the unit of power

D volts, the unit of voltage

Understand It with Pulse | Flag a mistake

34 **A red race car travels at a steady speed. What is the resultant force on the car?**

A 0 N

B 100 N

C 500 N

D 1000 N

Understand It with Pulse | Flag a mistake

35 **Glass marbles are shaken in a tray. What does this model?**

A particles bonding together

B particles freezing into place

C particles disappearing completely

D particles gaining energy

Understand It with Pulse | Flag a mistake

36 **A swimming pool holds water. Why does a person float in the pool?**

A the water pushes them down

B their density is close to water

C they are made of air

D they are heavier than water and sink

Understand It with Pulse | Flag a mistake

37 **A peach tree flowers in spring. What do bees carry between flowers?**

A pollen

B leaves

C water

D seeds

Understand It with Pulse | Flag a mistake

38 **A brown dog has fleas. What are fleas?**

A parasites

B prey

C predators

D producers

Understand It with Pulse | Flag a mistake

39 **A quadrat of area 10 square metres contains on average 8 daisies. Estimate the number of daisies in a field of 100 square metres.**

- **A** 40
- **B** 160
- **C** 800
- **D** 80

Understand It with Pulse | Flag a mistake

40 **A school lunch tray holds a bread roll, cheese and an apple. Which food test would show starch in the bread roll?**

- **A** Sudan III turns red
- **B** iodine turns blue-black
- **C** Benedict's turns brick red
- **D** Biuret turns purple

Understand It with Pulse | Flag a mistake

41 **Why does a plant cell not burst in pure water?**

A the chloroplasts use the water up

B the vacuole absorbs all the water

C the cell wall stops it swelling

D the cell membrane is waterproof

Understand It with Pulse | Flag a mistake

42 **How does deforestation affect the atmosphere?**

A more oxygen is made

B more carbon dioxide is absorbed

C less carbon dioxide is absorbed

D the air gets cleaner

Understand It with Pulse | Flag a mistake

43 **What is the first step in treating water?**

A chlorination

B adding fluoride

C boiling

D filtration

Understand It with Pulse | Flag a mistake

44 **What is a covalent bond?**

A an attraction between molecules

B a sea of electrons

C an attraction between ions

D a shared pair of electrons

Understand It with Pulse | Flag a mistake

45 **An alkane with 8 carbon atoms is cracked. One product is an alkene with 4 carbon atoms. How many carbon atoms does the other product have?**

- **A** 6
- **B** 3
- **C** 5
- **D** 4

Understand It with Pulse | Flag a mistake

46 **What type of bonding is in copper?**

- **A** intermolecular forces
- **B** ionic
- **C** covalent
- **D** metallic

Understand It with Pulse | Flag a mistake

47 **Paintbrushes apply paint to a wall. What is the paint made of?**

- A pure water with nothing in it
- B a mixture of substances
- C a single compound, nothing else
- D a single element, nothing else

Understand It with Pulse | Flag a mistake

48 **What is the relative formula mass of sodium chloride, NaCl?**

- A 81.5
- B 23
- C 35.5
- D 58.5

Understand It with Pulse | Flag a mistake

49 **What is the unit of frequency?**

- A the second
- B the hertz
- C the metre
- D the joule

Understand It with Pulse | Flag a mistake

50 **A 5 kg object moves at 10 m/s. What is its kinetic energy?**

- A 125 J
- B 500 J
- C 250 J
- D 260 J

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	C	**18.**	D	**35.**	D
2.	A	**19.**	B	**36.**	B
3.	B	**20.**	B	**37.**	A
4.	C	**21.**	D	**38.**	A
5.	D	**22.**	C	**39.**	D
6.	D	**23.**	C	**40.**	B
7.	A	**24.**	D	**41.**	C
8.	D	**25.**	A	**42.**	C
9.	C	**26.**	A	**43.**	D
10.	A	**27.**	B	**44.**	D
11.	B	**28.**	C	**45.**	D
12.	A	**29.**	D	**46.**	D
13.	A	**30.**	C	**47.**	B
14.	C	**31.**	B	**48.**	D
15.	A	**32.**	C	**49.**	B
16.	B	**33.**	A	**50.**	C
17.	B	**34.**	A		

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