QUEBEC APPLIED SCIENCE AND TECHNOLOGY, SECONDARY IV · FINAL EXAM

Final Exam — Practice Test

Quebec Applied Science and Technology, Secondary IV • 50 questions

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 **A sample of seawater of mass 6 kilograms has salinity 35 grams per kilogram. The dissolved salt in the sample, in grams, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A device uses 24 volts and draws 3 amperes. Its power, in watts, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **A rectangular box has length 3 centimetres, width 3 centimetres and height 3 centimetres. Its total surface area, in cm², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A material has density 2 grams per cm³ and volume 50 cm³. Its mass, in grams, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A driver pulley of diameter 20 centimetres turns at 100 revolutions per minute and drives a pulley of diameter 40 centimetres by belt. The driven pulley speed, in revolutions per minute, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **A catchment receives 1200 m³ of rain and 400 m³ run off. The water retained, in m³, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **A live wire produces a magnetic field whose strength decreases with**

A wire colour

B wire length only

C distance from the wire

D air temperature

Understand It with Pulse | Flag a mistake

8 **A drawing is made at a scale of 1 to 100. A real length of 500 centimetres is drawn as, in centimetres**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **A bolted joint differs from a riveted joint because it can be**

- A melted only
- B taken apart
- C painted only
- D weighed only

Understand It with Pulse | Flag a mistake

10 **A cam is a rotating part with a shaped edge that lifts a**

- A paint
- B wire
- C follower
- D magnet

Understand It with Pulse | Flag a mistake

11 **A glacier forms where snowfall exceeds melting over many**

A years

B days

C hours

D minutes

Understand It with Pulse | Flag a mistake

12 **Archimedes principle states that the buoyant force equals the weight of the**

A whole container

B object itself

C air above

D displaced fluid

Understand It with Pulse | Flag a mistake

13 **A section view reveals internal features that would otherwise be**

A coloured

B hidden

C heavy

D expensive

Understand It with Pulse | Flag a mistake

14 **A material sample stretches 2 millimetres under load and returns to its original length when unloaded. Its permanent stretch, in millimetres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **A gear train multiplies speed by 4 and then divides it by 2. Its total speed multiplication factor is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **A weather map symbol with H marks a centre of**

A low pressure

B rain

C high pressure

D snow

Understand It with Pulse | Flag a mistake

17 **A material that allows electric current to pass is a**

A conductor

B insulator

C magnet

D lens

Understand It with Pulse | Flag a mistake

18 **An assembly drawing shows how parts fit**

A apart

B by colour

C together

D by weight

Understand It with Pulse | Flag a mistake

19 **A thermoplastic softens when heated and can be**

A burned only

B reshaped

C dissolved in water

D magnetized

Understand It with Pulse | Flag a mistake

20 **A screw gear system changes fast rotation into slow linear motion and gives a large**

A colour

B temperature

C sound

D force

Understand It with Pulse | Flag a mistake

21 **A catchment of area 400 m² receives 1 metres of rain. The water volume received, in m³, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **Pascal principle states that pressure applied to a confined fluid is transmitted**

A equally in all directions

B only downward

C only upward

D only sideways

Understand It with Pulse | Flag a mistake

23 **Use pi equals 3.14. A cylinder of radius 4 centimetres and height 3 centimetres has lateral area, in cm², of**

ANSWER _____

Understand It with Pulse | Flag a mistake

24 **A material has density 3 grams per cm³ and volume 40 cm³. Its mass, in grams, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

25 **A driver gear with 30 teeth turns at 120 revolutions per minute and drives a gear with 60 teeth. The driven gear speed, in revolutions per minute, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

26 **A catchment of area 120 m² receives 3 metres of rain. The water volume received, in m³, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

27 **An object moves at constant speed 15 metres per second for 4 seconds. The distance travelled, in metres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

28 **A drawing uses a scale of 1 to 50. A line measuring 3 centimetres on the drawing represents, in centimetres, a real length of**

ANSWER _____

Understand It with Pulse | Flag a mistake

29 **A force of 120 newtons acts on a cross section of area 3 cm². The stress, in newtons per cm², is**

ANSWER _____

Understand It with Pulse | Flag a mistake

30 **A driver gear with 18 teeth turns at 90 revolutions per minute and drives a gear with 54 teeth. The driven gear speed, in revolutions per minute, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

31 **Coal, oil and natural gas are energy resources formed from ancient**

A rocks only

B seawater only

C moonlight

D organic matter

Understand It with Pulse | Flag a mistake

32 **Rubber is used to coat electrical wires because rubber is an**

- A conductor
- B insulator
- C magnet
- D lens

Understand It with Pulse | Flag a mistake

33 **A real length of 100 centimetres is drawn at a scale of 1 to 50. Its length on the drawing, in centimetres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

34 **A workshop makes 3 parts per hour for 6 hours. The number of parts made is**

ANSWER _____

Understand It with Pulse | Flag a mistake

35 **A transmission system has input speed 40 revolutions per minute and output speed 80 revolutions per minute. Its speed multiplication factor is**

ANSWER

Understand It with Pulse | Flag a mistake

36 **Ocean circulation carries heat from warm regions toward**

A the Moon

B the Sun

C cold regions

D the core

Understand It with Pulse | Flag a mistake

37 **Use g = 9.8 metres per second squared . An object of mass 4 kilograms has weight , in newtons , of**

ANSWER

Understand It with Pulse | Flag a mistake

38 **Use pi equals 3.14. A cylinder of radius 2 centimetres and height 10 centimetres has lateral area, in cm², of**

ANSWER _____

Understand It with Pulse | Flag a mistake

39 **Ceramics are generally hard and brittle and resist**

A electricity only

B heat

C water only

D light only

Understand It with Pulse | Flag a mistake

40 **A worm gear reduces speed by a factor of 20. An input of 200 revolutions per minute gives an output, in revolutions per minute, of**

ANSWER _____

Understand It with Pulse | Flag a mistake

41 **The greenhouse effect in the atmosphere is caused mainly by gases that trap**

A infrared heat

B visible light only

C sound

D ultraviolet only

Understand It with Pulse | Flag a mistake

42 **Two forces in equilibrium have a resultant force of**

A maximum

B double

C negative mass

D zero

Understand It with Pulse | Flag a mistake

43 **The development of a prism is made of rectangles and two**

A polygons

B circles

C sectors

D spheres

Understand It with Pulse | Flag a mistake

44 **Hardness is a mechanical property that measures resistance to**

A melting

B colour change

C electricity

D scratching and indentation

Understand It with Pulse | Flag a mistake

45 **Friction gears transmit motion by friction between their**

- A axles only
- B rims
- C paints
- D wires

Understand It with Pulse | Flag a mistake

46 **The salinity of ocean water is highest where evaporation is**

- A low and rainfall is high
- B absent
- C frozen
- D high and rainfall is low

Understand It with Pulse | Flag a mistake

47 **Use g = 9.8 metres per second squared . An object displaces 5 kilograms of water . The buoyant force on it , in newtons , is**

ANSWER _____

Understand It with Pulse | Flag a mistake

48 **Use pi equals 3.14. A cylinder of radius 6 centimetres and height 2 centimetres has lateral area, in cm², of**

ANSWER _____

Understand It with Pulse | Flag a mistake

49 **Tapping cuts an internal thread inside a**

A lens

B hole

C wire

D magnet

Understand It with Pulse | Flag a mistake

50 **Speed changes in a gear system depend on the ratio of the numbers of**

A colours

B weights

C teeth

D prices

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	210	**18.**	C	**35.**	2
2.	72	**19.**	B	**36.**	C
3.	54	**20.**	D	**37.**	39.2
4.	100	**21.**	400	**38.**	125.6
5.	50	**22.**	A	**39.**	B
6.	800	**23.**	75.36	**40.**	10
7.	C	**24.**	120	**41.**	A
8.	5	**25.**	60	**42.**	D
9.	B	**26.**	360	**43.**	A
10.	C	**27.**	60	**44.**	D
11.	A	**28.**	150	**45.**	B
12.	D	**29.**	40	**46.**	D
13.	B	**30.**	30	**47.**	49
14.	0	**31.**	D	**48.**	75.36
15.	2	**32.**	B	**49.**	B
16.	C	**33.**	2	**50.**	C
17.	A	**34.**	18		

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