NOVA SCOTIA ADVANCED BIOLOGY 12 · FINAL EXAM

Final Exam — Practice Test

Nova Scotia Advanced Biology 12 • 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 **An athlete heart beats 126 times in 90 seconds. The heart rate, in beats per minute, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

2 **A species has 24 chromosomes in each body cell. The gamete chromosome number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

3 **In a cross 200 offspring are produced and three quarters are expected to show the dominant trait. The expected number showing the dominant trait is**

ANSWER _____

Understand It with Pulse | Flag a mistake

4 **A population of 100 grows by 10 percent each year for 2 years. The population after 2 years is**

ANSWER _____

Understand It with Pulse | Flag a mistake

5 **A resting person takes 50 breaths in 150 seconds. The breathing rate, in breaths per minute, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

6 **2 cells each divide by mitosis 4 times. The total number of cells produced is**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **In a dihybrid cross 3200 offspring are produced. Nine sixteenths are expected to show both dominant traits. The expected number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **In a gene pool of 800 alleles, 600 are the A allele. The percent of A alleles is**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **A nerve impulse travels 75 metres in 0.6 seconds. The conduction speed, in metres per second, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **A menstrual cycle lasts 27 days. With ovulation 14 days before the end of the cycle, the ovulation day is**

ANSWER _____

Understand It with Pulse | Flag a mistake

11 **In a DNA sample adenine makes up 45 percent of the bases. The percent that is cytosine is**

ANSWER _____

Understand It with Pulse | Flag a mistake

12 **A fossil sample starts with 50 grams of a radioactive isotope. After 2 half lives the mass left, in grams, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

13 **A kidney filters 300 litres of fluid in a day and reabsorbs 98 percent of it. The urine volume, in litres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

14 **An egg cell has 12 chromosomes and the sperm cell has 12 chromosomes. The zygote chromosome number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

15 **A DNA coding region has 75 bases. The number of amino acids coded is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **A population of 800 bacteria is treated with an antibiotic that kills 95 percent. The survivors number**

ANSWER _____

Understand It with Pulse | Flag a mistake

17 **A hormone sample starts at 192 units. After 3 half lives the amount left, in units, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

18 **A person releases 1 egg per menstrual cycle and has about 13 cycles per year. In 4 years the number of eggs released is about**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **In a population 16 percent show a recessive trait. The percent of recessive alleles is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 **An area has 1000 species in total and 125 of them are birds. The percent that are birds is**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **A tissue sample has a mass of 90 grams. After absorbing water its mass is 99 grams. The percent gain in mass is**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **A pregnancy lasts 44 weeks. The length in days is**

ANSWER _____

Understand It with Pulse | Flag a mistake

23 **A dihybrid cross between two heterozygotes gives a phenotypic ratio of**

- A 9 to 3 to 3 to 1
- B 3 to 1
- C 1 to 1
- D 9 to 1

Understand It with Pulse | Flag a mistake

24 **Stabilising selection favours**

- A average phenotypes over extremes
- B both extremes
- C new mutations
- D larger individuals only

Understand It with Pulse | Flag a mistake

25 **In diabetes mellitus type 1 the main problem is**

A insulin resistance only

B excess glucagon only

C little or no insulin production

D kidney failure only

Understand It with Pulse | Flag a mistake

26 **In oogenesis the unequal divisions produce one egg and**

A four eggs

B sperm cells

C polar bodies

D identical eggs

Understand It with Pulse | Flag a mistake

27 **Messenger RNA is processed before leaving the nucleus by removing**

A exons

B ribosomes

C codons

D introns

Understand It with Pulse | Flag a mistake

28 **The founder effect occurs when a new population is started by**

A a large migration

B a mutation

C a fossil layer

D a small number of individuals

Understand It with Pulse | Flag a mistake

29 **During an action potential the inside of the axon first becomes**

A positive as sodium enters

B negative as sodium enters

C positive as potassium enters

D unchanged

Understand It with Pulse | Flag a mistake

30 **Identical twins arise from**

A two eggs fertilised

B one zygote splitting early

C two sperm entering one egg

D fertilisation twice

Understand It with Pulse | Flag a mistake

31 **In a cross 120 offspring are produced and three quarters are expected to show the dominant trait. The expected number showing the dominant trait is**

ANSWER _____

Understand It with Pulse | Flag a mistake

32 **A population of 400 grows by 10 percent each year for 2 years. The population after 2 years is**

ANSWER _____

Understand It with Pulse | Flag a mistake

33 **An athlete heart beats 150 times in 100 seconds. The heart rate, in beats per minute, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

34 **A species has 48 chromosomes in each body cell. The gamete chromosome number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

35 **In a dihybrid cross 160 offspring are produced. Nine sixteenths are expected to show both dominant traits. The expected number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

36 **In a gene pool of 400 alleles, 360 are the A allele. The percent of A alleles is**

ANSWER _____

Understand It with Pulse | Flag a mistake

37 **A nerve impulse travels 108 metres in 0.9 seconds. The conduction speed, in metres per second, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

38 **A menstrual cycle lasts 25 days. With ovulation 14 days before the end of the cycle, the ovulation day is**

ANSWER _____

Understand It with Pulse | Flag a mistake

39 **A DNA coding region has 180 bases. The number of amino acids coded is**

ANSWER _____

Understand It with Pulse | Flag a mistake

40 **A population of 2000 bacteria is treated with an antibiotic that kills 99 percent. The survivors number**

ANSWER _____

Understand It with Pulse | Flag a mistake

41 **A kidney filters 140 litres of fluid in a day and reabsorbs 98 percent of it. The urine volume, in litres, is**

ANSWER _____

Understand It with Pulse | Flag a mistake

42 **An egg cell has 21 chromosomes and the sperm cell has 21 chromosomes. The zygote chromosome number is**

ANSWER _____

Understand It with Pulse | Flag a mistake

43 **In a population 9 percent show a recessive trait. The percent of recessive alleles is**

ANSWER _____

Understand It with Pulse | Flag a mistake

44 **An area has 1200 species in total and 300 of them are birds. The percent that are birds is**

ANSWER _____

Understand It with Pulse | Flag a mistake

45 **A tissue sample has a mass of 150 grams. After absorbing water its mass is 180 grams. The percent gain in mass is**

ANSWER _____

Understand It with Pulse | Flag a mistake

46 **A pregnancy lasts 37 weeks. The length in days is**

ANSWER _____

Understand It with Pulse | Flag a mistake

47 **Polygenic inheritance produces traits that show**

A only two forms

B continuous variation

C sex linkage only

D no variation

Understand It with Pulse | Flag a mistake

48 **An analogous structure in a bat wing and an insect wing shows**

A common ancestry

B similar function without common ancestry

C identical bones

D recent divergence

Understand It with Pulse | Flag a mistake

49 **When blood water falls, ADH release rises and urine becomes**

- A more dilute and larger in volume
- B unchanged
- C more concentrated and smaller in volume
- D more concentrated and larger in volume

Understand It with Pulse | Flag a mistake

50 **Testosterone in males is mainly produced by the**

- A prostate
- B interstitial cells of the testes
- C pituitary
- D adrenal cortex only

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	84	**18.**	52	**35.**	90
2.	12	**19.**	40	**36.**	90
3.	150	**20.**	12.5	**37.**	120
4.	121	**21.**	10	**38.**	11
5.	20	**22.**	308	**39.**	60
6.	32	**23.**	A	**40.**	20
7.	1800	**24.**	A	**41.**	2.8
8.	75	**25.**	C	**42.**	42
9.	125	**26.**	C	**43.**	30
10.	13	**27.**	D	**44.**	25
11.	5	**28.**	D	**45.**	20
12.	12.5	**29.**	A	**46.**	259
13.	6	**30.**	B	**47.**	B
14.	24	**31.**	90	**48.**	B
15.	25	**32.**	484	**49.**	C
16.	40	**33.**	90	**50.**	B
17.	24	**34.**	24		

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