



BIOLOGY

NCERT - NCERT Biology(Telugu)

REACHING THE AGE OF ADOLESCENCE

Medicine Oriented Material

1. The head of mature mammalian sperm is made of

A. An acrosome

B. elongated nucleus covered by acrosome

C. two centrioles and axial filament

D. mitochondria

Answer:



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2. Ovulation or release of ovum occur on the day of menstrual cycle

A. 8-10

B. 12-14

C. 14-16

D. last two days of menstrual cycle

Answer:



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3. At the time of fertilization sperm head enters in the egg from

A. any where

B. animal pole

C. vegital pole

D. lateral side of egg

Answer:



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4. The period of Adolescence is

A. 10-14 years

B. 14-21 years

C. 13-19 years

D. 21-25 years

Answer:



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5. Which period of age is the fastest growing period for girls

A. 16-18

B. 14-16

C. 20-21

D. 40-45

Answer:



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6. Adam's apple is a growth of

A. testes

B. ovary

C. larynx

D. thyroid gland

Answer:



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7. At which age stoppage of menstruations occurs

A. 20-30

B. 30-40

C. 45-50

D. above 60 years

Answer:



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8. Legal marriage age for girls and boys

A. for girls 21 and boys 23

B. for girls 18 and boys 21

C. for girls 15 and boys 20

D. no age restriction

Answer:



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9. One of them have no ducts (Vessels), What are they

A. thyroid gland

B. urinary bladder

C. endocrine glands

D. circulatory system

Answer:



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10. Which control emotions

A. adrenal

B. hypothalamus

C. testes

D. ovary

Answer:



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Improve Your Learning

1. How is adolescence different from childhood?



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2. Write short notes on the following.

Secondary sexual characters



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3. Write short notes on the following.

Adam s apple



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4. List out the changes in the body that takes place at the age of adolescence.



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5. Match the following:

- | | | |
|--------------------|---------|-----------------------|
| 1. Testes | () | a. Estrogen |
| 2. Endocrine gland | () | b. Pituitary |
| 3. Menarche | () | c. Sperm |
| 4. Female hormone | () | d. First menstruation |



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6. Write five suggestions to improve the performance of Red Ribbon club of your school.



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7. Prepare a three minute speech on behavioural changes in adolescents.



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8. Why acne and pimples are common in adolescents?



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9. What can you suggest to your classmates to keep himself/herself clean and healthy?



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10. 13 years old Swaroop always think of his height. Can he improve his height? What do you suggest him?



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11. If you have chance to talk with a doctor, what questions you would ask above adolescent emotions and changes in the body?



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12. Nature prepares human body to reproduce her generations. What do you think of it?



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13. You know that early marriage is a social taboo. Prepare some slogans to prevent this?



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14. The only electron in the hydrogen atom resides under ordinary conditions on the first orbit. When energy is supplied, the electron moves to higher energy orbit depending on the amount of energy absorbed. When this electron returns to any of the lower orbits, it emits energy. Lyman series is formed when the electron returns to the lowest orbit while Balmer series is formed when the electron returns to second orbit. Similarly, Paschen, Brackett and Pfund series are formed when electron returns to the third, fourth orbits

from higher energy orbits respectively (as shown in figure)

Maximum number of lines produced when an electron jumps from n th level to ground level

is equal to $\frac{n(n-1)}{2}$. For example, in the case

of $n = 4$, number of lines produced is 6.

($4 \rightarrow 3, 4 \rightarrow 2, 4 \rightarrow 1, 3 \rightarrow 2, 3 \rightarrow 1, 2 \rightarrow 1$)

. When an electron returns from n_2 to n_1

state, the number of lines in the spectrum will

be equal to $\frac{(n_2 - n_1)(n_2 - n_1 + 1)}{2}$

If the electron comes back from energy level

having energy E_2 to energy level having

energy E_1 then the difference may be

expressed in terms of energy of photon as $E_2 - E_1 = \Delta E$, $\lambda = \frac{hc}{\Delta E}$. Since h and c are constant, ΔE corresponds to definite energy, thus each transition from one energy level to another will produce a higher of definite wavelength. This is actually observed as a line in the spectrum of hydrogen atom. Wave number of the line is given by the formula

$$\bar{\nu} = RZ^2 \left(\frac{1}{n_1^2} - \frac{1}{n_2^2} \right)$$

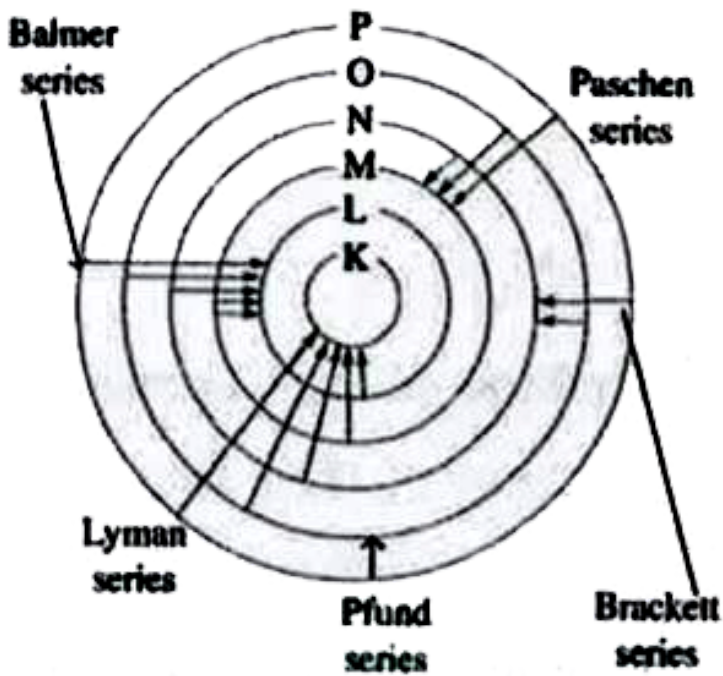
Where R is a Rydberg constant

$$(R = 1.1 \times 10^7)$$

(i) First line of a series : it is called .line of

longest wavelength. or .line of shortest energy..

(ii) Series limit of last of a series : It is the line of shortest wavelength or line of highest energy.



Let v_1 be the frequency of the series limit of the Lyman series, v_2 be the frequency of the

first line of the Lyman series, and ν_3 be the frequency of the series limit of the Balmer series



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15. What are your expectations about your parents and teachers?



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16. What are your expectations about your parents and teachers?



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17. Adolescence is the energetic stage. What health and good habits you want to develop?



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