

[Section - B (Chemistry)]**Time : 25 min.****Max. Marks - 15**

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- How many valence electrons will Nitrogen have? [1]
 - Identify the compound with double bond:
C₅H₈, C₄H₁₀, C₂H₂ [1]
 - Balance the given equation :
Mg + HCl → MgCl₂ + H₂ [1]
 - What is chemical formula of Washing soda? [1]
 - Define oxidation. [1]
 - Write IUPAC name of following compounds :
a) $\text{CH}_3 - \text{CH}_2 - \underset{\text{Cl}}{\text{CH}} - \text{CH}_3$ [1]
b) $\text{CH}_3 - \text{CH}_2 - \text{CH} - \text{CH}_3$ [2]
 - Write down electronic configuration of :
a) Aluminium (At. No = 13)
b) Calcium (At no = 20) [2]
 - Differentiate between reversible and irreversible reactions. [2]
 - What do you mean by catenation? Give one example. [2]
 - What is homologous series? Write first two members of Aldehyde series.

[2]

[Section - C (Biology)]**Time : 30 min.****Max. Marks - 20**

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- Define variations. [1]
 - What are Analogous organs? [1]
 - What is the basic and functional unit of Nervous system? [1]
 - Which intestine is the complete site of digestion and absorption of food? [1]
 - Which of the following organelle is called 'Kitchen of the cell'? [1]
 - What is meant by Double circulation? [1]
 - Write two differences between blood and lymph. [2]
 - How are alveoli designed to maximize the exchange of gases? [2]
 - What is the difference between Xylem and Phloem? [2]
 - Explain how the sex determination in human beings occur? [2]
 - Draw well labelled diagram of Heart.
OR
Draw well labelled diagram of kidney. [3]
 - Write three difference between Arteries and veins? [3]



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Entrance Test - 2019

Class - 10+1 (Maths)

Time : 30 min.

[Set - I]

Max. Marks : 20

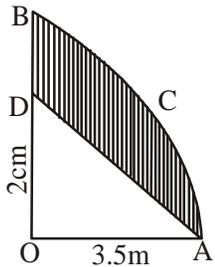
[Section - A]

1. Determine the nature of roots of $x^2 + x + 1 = 0$.
2. Which term of the A.P. 84, 80, 76, ----- is 0.
3. Find the distance between the points $(-6, 7)$ and $(-1, -5)$.
4. If PT is a tangent at T to a circle whose centre is O and $OP = 17\text{cm}$, $OT=8\text{cm}$.
Find PT.

[4×2=8]

[Section - B]

5. Find the area of shaded part.



6. Metallic sphere of radii 6cm, 8cm and 10cm respectively are melted to form a single solid sphere. Find the diameter of the resulting sphere.
7. What is the probability that a number selected from the numbers 1, 2, 3, -----,15 is a multiple of 4?

[3×4=12]

genetic make-up, you can change your eating habits and levels of activity. You can learn how to choose more nutritional meals which are low in fat, and become more active.

3. Then there are the psychological factors, Negative emotions such as boredom, sadness or anger, respond to people who overeat. There is also 'binge eating' when people eat large amounts of food thinking that they cannot control how much they are eating. Those with the most severe binge eating problems are also likely to have symptoms of depression and low self-esteem. These people may have more difficulty in losing weight and keeping it off than people without binge eating problems.

4. Obesity is more than a cosmetic problem; it is a health hazard. Several serious medical conditions have been linked to obesity, including type-2 diabetes, heart disease, high blood pressure and stroke. Obesity is also linked to higher rates of certain types of cancer. Other diseases and health problems linked to obesity include gall bladder disease and gallstones, liver disease, osteoarthritis which leads to deterioration of joints, gout which also affect the joints and reproductive problems in women.

5. As the trend is to equate attractiveness with slimness, especially for women, obesity makes people feel unattractive. There are many methods of treatment but the benefits of exercise are much more than any other way of losing weight. Not only does exercise help you to lose weight but it also improves your fitness and

flexibility and improves skin texture. Exercises are also free from the harmful side effects of crash dieting, slimming capsules and the heat treatment used in slimming centres.

Answer the following questions:-

(i) Obesity is defined as _____ .

(ii) Men and women can be described as being obese when _____ .

(iii) One can become more active by _____ . [3×1=3]

2. Using the following key-words, form a passage and also provide a suitable title for it.

- age — 40 years
- height/weight/appearance—6 ft/75 kg-fat, smart, good-looking
- education—M.A. (Mathematics) : Agra University, Agra
—B.Ed: M.D. University Rohtak
- experience—15 years
- duties—teaching mathematics, class teacher, organises Mathematics Olympiad
- why I like/dislike him—painstaking, thorough, explains in detail, solves our problem-easily available-patient listener-cheerful-friendly approach

[5]

3. Write a paragraph in about 80-100 words on any one of the following :-

- i) Computer Boon or Bane
- ii) Save Trees Save Life
- iii) Pollution

[5]