



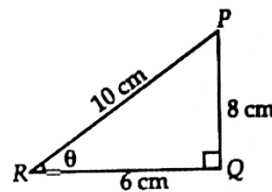
ALVA'S PRE-UNIVERSITY COLLEGE MOODABIDRI

SCHOLARSHIP EXAMINATION

MODEL PAPER

MATHEMATICS

1. The number which when added to itself 17 times gives 162 as result, is
 a) 7 b) 8 c) 9 d) 10
2. The difference between 89% of a number and 73% of the same number is 448. Then 49% of that number is
 a) 1426 b) 1372 c) 1218 d) 1124
3. If $5\tan\beta=4$, then $\frac{5\sin\beta - 2\cos\beta}{5\sin\beta + 2\cos\beta} = \dots\dots\dots$
 a) $\frac{1}{3}$ b) $\frac{2}{5}$ c) $\frac{3}{5}$ d) 6
4. If the common difference of an AP is 5, then $a_{18} - a_{13}$ is
 a) 5 b) 20 c) 25 d) 30
5. From the figure, the value of $25(\sin^2\theta + 2\cos^2\theta - \tan\theta)$ is
 a) $\frac{2}{3}$ b) $\frac{3}{2}$
 c) $-\frac{2}{3}$ d) $-\frac{3}{2}$



6. Let a and b be two positive integers such that $a = p^3q^4$ and $b = p^2q^3$, where p and q are prime numbers, If $HCF(a,b) = p^m q^n$ and $LCM(a,b) = p^r q^s$, then $(m+n)(r+s) = \dots\dots\dots$
 a) 15 b) 30 c) 35 d) 72

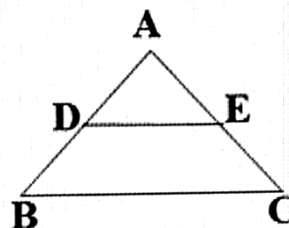
7. In the given figure, $DE \parallel BC$, $AE = a$ units, $EC = b$ units, $DE = x$ units and $BC = y$ units. Which of the following is true?

a) $x = \frac{a+b}{ax}$

b) $y = \frac{ax}{a+b}$

c) $x = \frac{ay}{a+b}$

d) $\frac{x}{y} = \frac{a}{b}$



8. Two circular cylinders of equal volume have their heights in the ratio 1: 2
Ratio of their radii is

a) $1:\sqrt{2}$

b) $\sqrt{2}:1$

c) $1:2$

d) $1:4$

9. The roots of the quadratic equation $x^2 - 0.04 = 0$ are

a) ± 0.2

b) ± 0.02

c) 0.4

d) 2

10. If one zero of the quadratic polynomial $x^2 + 3x + k$ is 2, then the value of k is

a) 10

b) -10

c) -7

d) -2

SCIENCE

- During electrolytic refining of zinc, it gets
 a) deposited on cathode
 b) deposited on anode
 c) deposited on cathode as well as anode
 d) remains in the solution
- What are the products obtained by anaerobic respiration in plants?
 a) Lactic acid + energy
 b) Carbon dioxide + water + energy
 c) Ethanol + carbon dioxide + energy
 d) Pyruvate
- Alloys are homogeneous mixtures of a metal with a metal or non-metal. Which among the following alloys contain non-metal as one of its constituents?
 a) Brass
 b) Bronze
 c) Amalgam
 d) Steel
- An object 20 cm from a spherical mirror give rise to a virtual image 15cm behind the mirror. The type of the mirror and its focal length is
 a) concave, 8.5 cm
 b) convex, 30cm
 c) concave, 60 cm
 d) convex, 60 cm

5. When a few drops of iodine solution are added to rice water, the solution turns blue-black in colour. This indicates that rice water contains
 a) Fats
 c) Starch
 b) Complex proteins
 d) Simple proteins
6. A particle contains 26 protons, 30 neutrons and 24 electrons. Which statement is true about this particle?
 a) It is an atom of a noble gas.
 c) it is a negative ion.
 b) it is an atom of a non-metal.
 d) It is a positive ion.
7. A current of 2 A passing through conductor produces 80 J of heat in 10 seconds. The resistance of the conductor is
 a) 0.5 Ω
 b) 2 Ω
 c) 4 Ω
 d) 20 Ω
8. Choose the wrong statement.
 a) A concave mirror can form a magnified real image.
 b) A concave mirror can form a magnified virtual image.
 c) A convex mirror can form a diminished virtual image.
 d) A convex mirror can form a diminished real image.
9. A cylinder of a material is 10cm long and has a cross section of 2cm². If its resistance along the length be 20 ohm. What will be its resistivity?
 a) 0.17 ohm m
 c) 2.45 ohm m
 b) 0.04 ohm m
 d) 1.21 ohm m
10. The opening and closing of the stomatal pore depends upon
 a) Oxygen
 b) Temperature
 c) Water in guard cells
 d) Concentration of carbon dioxide

SOCIAL STUDIES:

1. _____ regimes imposed censorship laws to control what was said in newspapers, books, plays and songs and reflected the ideas of liberty and freedom.
 a) Liberal
 b) Conservative
 c) Democratic
 d) Secular
2. During the nineteenth century, _____ emerged as a force that brought about sweeping changes in the political and mental world of Europe.

- a) Nationalism
c) Monarchy
- b) Secularism
d) Religion
3. The idea of *La Patrie* means ____.
- a) Motherland
c) Citizens
- b) Fatherland
d) Monarchy
4. Which of the following is true about Liberalism?
- a) Abolition of state-imposed restrictions
b) Freedom of markets on the movement of goods and capital
c) Options (a) and (b)
d) None of the above
5. Which of the following statements is true about Satyagraha?
- a) Satyagraha is not a physical force.
b) It is the weapon of the weak.
c) A Satyagrahi does not inflict pain on the adversary.
d) Option (a) and (c)
6. Who is the author of the book *Hind Swaraj* (1909)?
- a) Bhagat Singh
c) Subash Chandra Bose
- b) Jawaharlal Nehru
d) Mahatma Gandhi
7. The plantation workers were not permitted to leave the tea gardens without permission as per ____.
- a) Inland Emigration Act of 1859
c) Inland Emigration Act of 1879
- b) Inland Emigration Act of 1866
d) Inland Emigration Act of 1869
8. Simon Commission arrived in India in ____.
- a) 1928
b) 1930
c) 1932
d) 1942
9. Indo-China comprises the modern countries of ____.
- a) Myanmar, Laos and Cambodia
c) Vietnam, Laos, and Thailand
- b) Laos, Thailand and Cambodia
d) Vietnam, Laos and Cambodia
10. After the _____ war, the French assumed control of Tonkin and Annam, and in 1887, French Indo-China was formed.
- a) Franco-Indonesian
c) Franco-Chinese
- b) Franco-Dutch
d) Franco-British

ENGLISH :

Read the below given English unseen passage for the Class 10 .

The choices we make on a daily basis—wearing a seatbelt, lifting heavy objects correctly or purposely staying out of any dangerous situation—can either ensure our safety or bring about potentially harmful circumstances.

You and I need to make a decision that we are going to get our lives in order. Exercising self-control, self-discipline and establishing boundaries and borders in our lives are some of the most important things we can do. A life without discipline is one that's filled with carelessness.

We can think it's kind of exciting to live life on the edge. We like the image of "Yeah! That's me! Living on the edge! Woo-hoo!" It's become a popular way to look at life. But if you see, even highways have lines, which provide margins for our safety while we're driving. If we go over one side, we'll go into the ditch. If we cross over the line in the middle, we could get killed. And we like those lines because they help to keep us safe. Sometimes we don't even realize how lines help to keep us safe.

I'm not proud of this, but for the first 20 years of my life at work, I ignored my limits. I felt horrible, physically, most of the time. I used to tell myself, "I know I have limits and that I've reached them, but I'm going to ignore them and see if or how long I can get by with it." I ran to doctors, trying to make myself feel better through pills, vitamins, natural stuff and anything I could get my hands on. Some of the doctors would tell me, "It's just stress." That just made me mad. I thought stress meant you don't like what you do or can't handle life, and I love what I do. But I kept pushing myself, travelling, doing speaking engagements and so on— simply exhausting myself.

Finally, I understood I was living an unsustainable life and needed to make some changes in my outlook and lifestyle.

You and I don't have to be like everyone else or keep up with anyone else. Each of us needs to be exactly the way we are, and we don't have to apologize for it. We're not all alike, and we need to find a comfort zone in which we can enjoy our lives instead of making ourselves sick with an overload of stress and pressure.

On the basis of understanding the passage, answer the following questions .

Q1) Which of the characteristics are apt about the writer in the following context: "I know I have limits and that I've reached them, but I'm going to ignore them and see if or how long I can get by with it." ?

1. negligent
2. indecisive
3. spontaneous
4. reckless

5. purposeless

6. patient

a) 2 and 5

b) 3 and 6

c) 1 and 4

d) 2 and 3

Q2) The reason why living on the edge has become popular is because of the

a) constant need for something different.

b) population being much younger.

c) exhausting effort to make changes.

d) strong tendency to stay within our limits.

Q3) The phrase “potentially harmful circumstances” refers to circumstances that can

(a) certainly be dangerous.

(b) be fairly dangerous.

(c) be possibly dangerous.

(d) seldom be dangerous.

Q4). Choose the option that correctly states the two meanings of ‘outlook’, as used in the passage.

1. A person’s evaluation of life

2. A person’s experiences in life

3. A person’s point of view towards life

4. A person’s regrets in life

5. A person’s general attitude to life

a) (1) and (4)

b) (2) and (3)

c) (3) and (5)

d) (4) and (5)

Q5) Choose the option that best captures the central idea of the passage from the given quotes.

1. It’s all about quality of life and finding a happy balance between work and friends.

2. To go beyond is as wrong as to fall short.

3. Life is like riding a bicycle. To keep your balance, you must keep moving.

4. Balance is not something you find. It’s something you create.

a) Option (1)

b) Option (2)

c) Option (3)

d) Option (4)

NOTE :QUESTIONS ON SENTENCE CORRECTION, DIRECTION SENSE, BLOOD RELATIONS & BASIC ENGLISH GRAMMAR ARE INCLUDED FOR SCHOLARSHIP TEST.