Time : 3 hours, Marks : 80

Social Science: Practice Paper 1

- 38 questions. All are compulsory; some give you a choice (OR).
- Sit for 3 hours, no phone, no book. Then mark yourself with the answers.
- For the map questions use a blank outline political map of India (from any stationery shop).

Section A: History

1. Which of the following was started by Prussia in 1834 to remove tariff barriers among the German states?

(a) The Frankfurt Parliament
(b) The Zollverein (customs union)
(c) The German Confederation
(d) Young Europe

[1 mark]

2. Which event led Gandhi to call off the Non-Cooperation Movement in February 1922?

(a) The firing at Jallianwala Bagh
(b) The arrival of the Simon Commission
(c) A violent clash with the police at Chauri Chaura in Gorakhpur
(d) The Poona Pact

[1 mark]

9. If $\sin\theta = \frac{5}{13}$, where θ is an acute angle, then $\tan\theta$ is equal to

(a) $\frac{12}{13}$ (b) $\frac{5}{12}$

(c) $\frac{12}{5}$ (d) $\frac{13}{12}$

[1 mark]

10. If $2\cot\theta = 3$, then the value of $\frac{2\cos\theta - \sin\theta}{2\cos\theta + \sin\theta}$ is

(a) $\frac{1}{7}$ (b) 2

(c) $\frac{1}{2}$ (d) $\frac{3}{5}$

[1 mark]

11. A 6 m long ladder is placed against a vertical wall so that it makes an angle of 60° with the level ground. The height at which the top of the ladder touches the wall is

(a) 3 m (b) $6\sqrt{3}$ m

(c) $2\sqrt{3}$ m (d) $3\sqrt{3}$ m

[1 mark]

12. From an external point P, a tangent PT is drawn to a circle with centre O and radius 8 cm. If PT = 15 cm, then OP is

(a) 17 cm (b) 7 cm

(c) 23 cm (d) $\sqrt{161}$ cm

[1 mark]

33. A straight vertical wire passes through a horizontal sheet of cardboard. A current flows upwards through the wire.
(a) Describe the pattern of the magnetic field lines on the cardboard.
(b) State the rule that gives the direction of these field lines, and give their direction as seen from above.

[2 marks]

34. An electric heater draws a current of 4 A from a 220 V supply. Find (a) its power and (b) the electrical energy it uses in 2 hours, in kWh.

OR

Two lamps are rated 100 W, 220 V and 25 W, 220 V. (a) Find the resistance of each lamp. (b) Which lamp has the higher resistance, and how many times higher is it?

[2 marks]

35. A concave mirror has a focal length of 10 cm. A 4 cm tall object is kept 15 cm from it. Find where the image forms, its size and its nature.

[3 marks]

36. Kabir, on the last bench, cannot make out what is written on the board, but he reads his notebook without any trouble.
(a) Name the defect of vision he has.
(b) Give two possible causes of this defect.
(c) How can it be corrected? Explain how the correcting lens helps.

[3 marks]

Time : 3 hours, Marks : 80

Maths: Practice Paper 1

- 38 questions. All are compulsory; some give you a choice (OR).
- Sit for 3 hours, no phone, no book. Then mark yourself with the answers.

Section A

1. If $p = 2^3 \times 3^2 \times 5$ and $q = 2^2 \times 3^3 \times 7$, then HCF(p, q) is

(a) 108 (b) 72

(c) 36 (d) 7560

[1 mark]

2. If α and β are the zeroes of the polynomial $x^2 - 5x + 6$, then the value of $\frac{1}{\alpha} + \frac{1}{\beta}$ is

(a) $\frac{6}{5}$ (b) $\frac{5}{6}$

(c) $-\frac{5}{6}$ (d) $\frac{1}{6}$

[1 mark]

3. For what value of k do the equations $3x - y = 5$ and $6x - ky = 7$ represent two parallel lines?

(a) -2 (b) $\frac{1}{2}$

(c) 6 (d) 2

[1 mark]