

**BSCS Recruitment - 2018**  
**Written Test for the Post of Officer of Sonali Bank Ltd.**

**Time: 120 Minutes**

**Mark: 200**

1. 'ব্রিটিশদের নিয়ন্ত্রণের দ্রুত বাতাসকর্মে বাংলাদেশের কৌশলগত অবস্থান' শীর্ষক শিরোনামে ২০০ শব্দের মধ্যে একটি প্রতিবেদন রচনা করুন। (35)
2. আপনার এলাকায় সেমালী ব্যাংকের একটি শাখা স্থাপনের জন্য ব্যবস্থাপনা পরিচালকের দরবারে একটি আবেদনপত্র লিখুন। (30)
3. Read the following passage and answer the questions below: (15)  
Industrial Revolution started and made its biggest strides in England because of her uniquely inclusive economic institutions. These in turn were built on foundations laid by the inclusive political institutions brought about by the Glorious Revolution of 1688. It was the Glorious Revolution that strengthened and rationalized property rights, improved financial markets, undermined state-sanctioned monopolies in foreign trade, and removed the barriers to the expansion of industry. It was the Glorious Revolution that made the political system open and responsive to the economic needs and aspirations of society. These inclusive economic institutions gave men of talent and vision the opportunity and incentive to develop their skills and ideas and influence the system in ways that benefited them and the nation. England developed pluralistic political institutions breaking away from extractive institutions. Political developments leading up to Glorious Revolution were shaped by several interlinked processes. Central was the political conflict between absolutism and its opponents.  
(a) What, according to this passage, triggered the Industrial Revolution in England?  
(b) How can political institutions play a role in creating a favorable environment for businesses in a society?  
(c) What is meant by the terms 'inclusive' and 'extractive' economic institutions?  
(d) How do you think the conflict between absolutism and its opponents impacted on shaping an enabling environment for industrial growth in England in the wake of Glorious Revolution?  
(e) Write a suitable title for the passage. (25)
4. Translate the following sentences into English: (25)  
(a) ধন ও মান চির দিনের জন্য নয়।  
(b) সময়ের এক ফৌড়, অসময়ের দশ ফৌড়।  
(c) আমরা সমাজ জীবনের প্রতিটি ক্ষেত্রে অসহিষ্ণুতার সংস্কৃতি থেকে বেরিয়ে আসতে চাই।  
(d) দেশের কৃষির বিকাশে প্রতিভাবান শিক্ষিত তরুণদের অংশগ্রহণ পুষ্টমস্ত জমিকা রাখবে।  
(e) ব্যাংকিং খাত অর্ধ সেক্টরে পড়ার অন্যতম কারণ দেশালি খনের ব্যাপকতা। (25)
5. Translate the following sentences into Bangla:  
(a) There is no royal road to learning.  
(b) The wearer best knows where the shoe pinches.  
(c) You speak too fast for others to understand.  
(d) I never got to see him at close quarters.  
(e) The anti-socials are still at large.

Solve the following mathematical problems:

(70)

- (a) Amin has 12 pieces of Tk. 10 and Tk. 5 notes in his wallet. If the total value of all the notes is less than Tk. 95, what is the maximum number of Tk. 10 notes that he has?
- (b) A, B and C enter into partnership. A invests 3 times as much as B invests and B invests two-third of what C invests. At the end of the year, the profit earned is Tk. 6,600. What is the share of B?
- (c) A and B can complete a work in 15 days and 10 days respectively. They started doing the work together but after 2 days B had to leave and A alone completed the remaining work. How many days did it took to complete the whole work?
- (d) A depositor deposited Tk. 4,000 at  $x\%$  simple interest and Tk. 5,000 at  $y\%$  simple interest. He received annual interest of Tk. 320 on his deposited amounts at the year end. If he could deposit Tk. 5,000 at  $x\%$  simple interest and Tk. 4,000 at  $y\%$  simple interest, he would receive annual interest of Tk. 310. Find the value of  $x$  and  $y$ .
- (e) 70 students are studying physics, mathematics, and chemistry. 40 students study mathematics, 35 students study physics and 30 students study chemistry. 15 students are studying all the subjects. How many students are studying exactly two of the subjects?
- (f) Find the value of  $x^6 + \frac{1}{x^6}$ , if  $x + \frac{1}{x} = 3$
- (g) Solve the equation:  $\frac{3}{x+2} + \frac{x-1}{x-5} = 2$

Handwritten solutions for problem (g):

$$\frac{3}{x+2} + \frac{x-1}{x-5} = 2$$

$$\frac{3(x-5) + (x-1)(x+2)}{(x+2)(x-5)} = 2$$

$$\frac{3x-15 + x^2 + 2x - x - 2}{(x+2)(x-5)} = 2$$

$$\frac{x^2 + 4x - 17}{x^2 - 3x - 10} = 2$$

$$x^2 + 4x - 17 = 2(x^2 - 3x - 10)$$

$$x^2 + 4x - 17 = 2x^2 - 6x - 20$$

$$x^2 - 10x - 3 = 0$$

$$x = \frac{10 \pm \sqrt{100 + 12}}{2} = \frac{10 \pm \sqrt{112}}{2} = \frac{10 \pm 4\sqrt{7}}{2} = 5 \pm 2\sqrt{7}$$

Other handwritten notes include:

- $x = 6$
- $0 = \frac{2}{3} \times 6 = 4$
- $22x = 66$
- $x = 3000$
- $= 12000$
- $(n-1)(n+2) = n^2 + n - 2$
- $(n^2 + \frac{1}{n})^2 = n^2 + 2 + \frac{1}{n^2}$
- $(n^2 + \frac{1}{n})^3 = n^3 + 3n + \frac{3}{n} + \frac{1}{n^3}$
- $(22-9)^2 = 13^2 = 169$
- $(2)^2 = 4$
- $\frac{3}{x+2} = 2 \cdot \frac{x-1}{x-5}$
- $\frac{3}{x+2} = \frac{2x-2}{x-5}$
- $\frac{3}{x+2} = \frac{2x-10+11}{x-5} = \frac{2x-9}{x-5}$
- $\frac{3}{x+2} = \frac{2x-9}{x-5}$