

JuniorAid

Class: Eight

বাংলা

গদ্য:

১. এবারের সংগ্রাম স্বাধীনতার সংগ্রাম,
২. আমাদের লোকশিল্প,
৩. বাংলা নববর্ষ

পদ্য:

১. মানবধর্ম
২. নারী
৩. একুশের গান

(বি: দ্র : অধ্যায়গুলো ভালো করে রিডিং পড়বে, বহুনির্বাচনি প্রশ্ন লিখবে ৪০ টা করে, সৃজন শীল ২টা করে উত্তর সহ।)

ব্যাকরণ:

১. বানান
২. সমার্থক শব্দ
৩. লিঙ্গ পরিবর্তন
৪. ধ্বনি ও বর্ণ
৫. ভাষা

(পাঠ্যবই ভালো করে পড়ে সেখান থেকে এক শব্দে উত্তর লিখবে ৪০ টা করে।)

English

Find the exercises in Advanced Learners. In case you don't have it, attempt on the exercises from any grammar book at hand.

- Punctuation and Capitalization: 15-20
- Narration (additional): 60-65
- Punctuation: 65-70

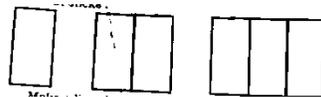
Paragraph:

- Tree Plantation
- A Tea Stall
- Traffic Jam

Subject: Math

First day: You have to solve these maths. If you face any problem contact with teacher.

1. The following geometrical figures are constructed built with sticks:



- Make a list of the numbers of sticks.
- Explain how you can find the next number in the list.
- Construct the next figure with sticks and verify your result.

2. 9, 14, 19, 24,

- Express 6th term of the list as the sum of two perfect squares.
- Which algebraic expression is followed by the list of the stem? Present it with logic.
- Find the sum of first 120 terms of the pattern.

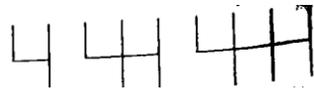
3. 0, 3, 8, 15,

- Express 145 as the sum of two squares in two different ways.
- Determine as algebraic expression for the list.
- Determine the sum of first 30 differences of the list.

4. 7, 11, 15, 19, 23, 27 is the pattern of numbers.

- Express 40 as the subtract of two squares and 100 as the sum of two squares.
- Show that by which formula the number in the stem make pattern. And build up a formula for finding any term with help of variable 'a'.
- Find the sum of the first 25 numbers in the patterns.

5.



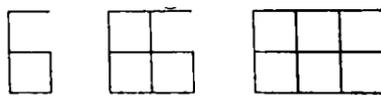
The above geometric figures has made a pattern which is made of the line segment of the same length.

- Express 41 and 58 into the sum of the two squares.
- By constructing the fourth figure of the pattern, present with reason which algebraic expression the pattern supports.
- Determine how many line segments with be needed to make the first 30 figures in the pattern.

6. 6, 11, 16, 21, 26,

- Express 325 as the sum of two perfect squares in two different ways.
- Find two later numbers of the pattern and draw Geometric pattern of this two numbers.
- Find the sum of first 55 numbers of the pattern.

7. The following algebraic patterns have been made with the sticks of same length.



- Make the fifth figure of the stem and find the number of stick.
- Find an algebraic expression in the light of the stem and find how many sticks are necessary to make the 50th pattern.
- Find how many sticks are necessary to make the first 100 figures.

8) 7, 16, 25, 34, 43,

- Express 25 and 34 as the sum of two squares.
- Find out the 20th term of the list.
- Find the sum of the first 60 numbers in the list.

Day : Two

Profit and Loss

You have to solve these maths and books creative:

1. A person deposited Tk. 6000 in a Bank at the rate of profit Tk. 10 per annum in 3 years.

- Determine the profit-principal at the end of 1st year.
- Determine the difference of simple profit and compound profit.
- In how many years profit-principal will be 1.5 times of the given principal at the rate of same profit?

2. At the same of rate of profit, if the compound principal of any amount of principal at the end of One year is Tk. 525 and at the end of two years is Tk. 551.25.

- Write down the formulae for simple profit and compound principal.
- Find out the principal.
- What will be the difference of simple profit and compound profit at the same rate of profit and same principal in 3 years?

3. Some principal becomes Tk. 6000 as profit-principal in 4 years and Tk. 6500 as profit-principal in 6 years.

- What is the profit of 4 years?
- Find the principal and the rate of profit.
- At the same rate what will be the compound profit in 3 years?

4. Some principal becomes Tk. 16,280 as profit-principal in 6 years ad Tk. 18,080 as profit-principal in 8 years.

- Find the profit in 5 years.
- Find the principal and rate of profit.
- Find the difference of simple profit and compound profit of Tk. 9,000 in 3 years at the same rate of profit.

Day: Three

Algebraic expressions:

1. $2x^2 - 3x + 2 = 0$ is a algebraic equation.

- a) Find the value of $(x + \frac{1}{x})$
 b) Find the value of $x^4 + \frac{1}{x^4}$.
 c) Prove that, $8x^6 + 9x^3 + 8 = 0$

2. $x^2 - 2x + 1$, $x^2 - 1$ and $x^2 - 5x + 4$ are three algebraic expressions.

- a) If $x - \frac{1}{x} = 3$, find out the value of $(x + \frac{1}{x})^2$
 b) If 1st expression = $2x$, prove that, $x^4 + \frac{1}{x^4} = 194$.
 c) Determine the H.C.F. of three expressions.

3. $x^2 - \sqrt{5}x + 1 = 0$, x is a positive number.

- a) Determine the square of $p^2 + p - 1$.
 b) Determine the value of $(x^2 - \frac{1}{x^2})^2$
 c) Prove that, $(x^2 + \frac{1}{x^2})(x^3 - \frac{1}{x^3}) = 12$.

4. $a^2 - 2a + 1 = 0$.

- a) Determine the value of $(a + \frac{1}{a})$.
 b) Show that, $\frac{3a^6 + 3}{a^3} = 6$
 c) Prove that, $a^2 + \frac{1}{a^2} = a^4 + \frac{1}{a^4}$.

5. If $x^2 - 4x + 1 = 0$.

- a) $x + \frac{1}{x} = ?$
 b) Determine the value of $x^3 + \frac{1}{x^3}$.
 c) Prove that, $x^4 + \frac{1}{x^4} = 194$.

6. If $x^2 = 3x - 1$ then,

- a. $(x + \frac{1}{x})^2 = \text{what?}$
 b. Show that $x^4 = 47 - \frac{1}{x^4}$.

c. Find the value of $\frac{x^6-1}{x^3}$.

7. $x^2 + y^2 = z^2$

a. Factorize $x^6 - y^6$.

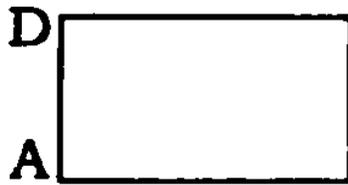
b) Prove that, $x^6 + y^6 + 3x^2y^2z^2 = z^6$

c) If $x+y = 5$ and $x-y = 3$, then determine the value of z^2 .

Day: Four

Your have to solve by yourself:

1. ABCD is a rectangle.

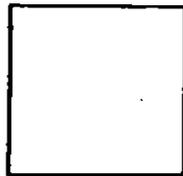


a. What is rectangle?

b. Show that, two diagonal of a rectangle are equal & bisect each other.

c) Prove that, two diagonals of a rhombus bisect each other at right angles.

2.

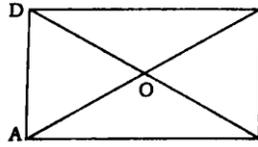


a) What is the difference between Rhombus and square?

b) To construct a square when one side is given.

c) To construct a quadrilateral when two adjacent sides and three angles are given.

3. In the figure, $AB = CD$ & $AB \parallel CD$.



- Name the two triangles on base AB.
- Prove that, AD and BC are equal and parallel to each other.
- Show that, $OA = OC$ & $OB = OD$.

Day: Five

The marks obtained in Mathematics by 30 students of class VIII are:
45, 42, 60, 61, 58, 53, 48, 52, 51, 49, 73, 52, 57, 71, 64, 49, 56, 48, 67,
63, 70, 59, 54, 46, 43, 56, 59, 43, 68, 52.

- What central tendency?
- Find the arithmetic mean.

2. Marks obtained in Mathematics by 30 students of class VIII are:
42, 45, 47, 60, 61, 58, 59, 52, 51, 73, 57, 71, 64, 49, 58, 60, 58, 73, 64,
55, 64, 54, 63, 66, 48, 47, 68, 52, 56, 66.

- Determine the number of classes with 5 as class interval.
- Determine the mean and median.
- Make a frequency distribution table with 5 as class interval and determine mean.

3. Marks obtained in Science subject by 30 students of class VIII are as follows:

68, 52, 70, 92, 54, 75, 82, 98, 56, 88, 73, 90, 96, 58, 64, 77, 83, 80, 85,
72, 65, 87, 66, 78, 69, 90, 93, 79, 67, 95.

- In an examination 15 students got GPA-5 out of 60 students. Show the information in a pie-chart.
- Make a cumulative frequency distribution considering 5 as class interval.
- Determine the median of given data.

4. The frequency distribution table of the marks obtained in Mathematics by 60 students is as follows:

Marks obtained	71-75	76-80	81-85	86-90	91-95	96-100
Frequency	7	13	20	10	8	2

- Find the mid value of the mode class.
- Determine the Arithmetic mean from the table.

Day : Six

1. $A = x^2 - 5x + 6$, $B = x^2 - 9$, $C = x^2 + 4x + 3$.

- Express $\frac{C}{x^2+x}$ in the lowest form.
- Simplify: $\frac{1}{A} + \frac{1}{B}$.
- Express: $\frac{1}{A}$, $\frac{1}{B}$, $\frac{1}{C}$ in the form of common denominator.

2. $M = x^2 - 3x + 2$, $N = x^2 - 5x + 6$ and $K = x^2 - 4x + 3$ are three algebraic expressions.

- Express, $\frac{M}{x-2}$ in the lowest form.
- Simplify: $\frac{1}{M} + \frac{1}{N} + \frac{1}{K}$.
- Express $\frac{1}{M}$, $\frac{1}{N}$, $\frac{1}{K}$ in the form of the common denominator.

3. $P = a^2 - 2a - 8$, $Q = a^2 - 3a - 10$ and $R = a^2 - 8a + 15$. are three algebraic expressions.

- Factorize 'R'.
- Turn $\frac{1}{P}$, $\frac{1}{Q}$, $\frac{1}{R}$ into the fraction with a common denominator.
- Show that, $P \times \frac{a-5}{Q} \div \frac{R}{a-3} = \frac{a-4}{a-5}$.

Day: Seven

Solve MCQ of Board - 2016, 2017, 2018.

Day: Eight

Solve all geometry which was solve by class.

Information and Communication Technology

Chapter Three

01. "Cybercrime is a punishable offence"- Explain it.

Answer: The crimes that are done by using information and communication technology is known as cybercrime. The criminals find out new ways to commit these type of crimes. Some traditional cyber crimes are-spam, deceiving etc. These type of crimes are punishable crimes. Because, people occurring these type of crimes try to communicate with other people by using fake identity and giving a piece of wrong information and by that means they try to deceive people. This is a criminal act in sight of law. Since, it is a new type of crime and most of the people does know how to control it, so which punishment should be given for which type of crime is going on under research at that moment

02. What is captcha ? Write down the techniques to protect the secrecy password.

Answer: The letters which are written in such a way that only human will recognize it, but a robot will not understand- is called captcha

Techniques of protecting the secrecy password are given below:

- a) Using long password instead of short one. Favourite sentences can be used if necessary.
- b) Both the capital and small letters can be used instead of using either capital or small letters.
- c) Using strong password. Creating password with word, sentence number and symbol. For example: Z26al s a l r l 8al@gmail.com.
- d) There is a scope to verify the strength of password online. Verifying the strength of password by using the scope and if it becomes weak, strengthen it.

e) If we use any system run by any people, we should log out before leaving the place.

f) We should use password manager, such as lastpass, keepass, etc.

g) We should develop the practice of changing password.

03. What is computer virus: Describe cybercrime.

Answer: **computer virus:** computer virus is a kind of harmful software or malware that is reproducible and can contaminate from one computer to another.

Some forms of cybercrime are described below-

Spam : These are the unwanted, provoking and sensitive e-mails that are machine-generated and are sent regularly. Time and money are wasted dealing with SPAM attacks.

Fraud/Deceiving: A major part of cybercrime is fraud. In this, people are approached with fake identity and information and attempts are made to deceive them in many ways.

Disclosing Objectionable Information: Sometimes, false and objectionable information about a person is spread on the internet to harm him. Things can get viral very quickly and a man's reputation could be lost forever. To prevent this, some popular websites like Facebook and YouTube were shut down for some time.

Threatening: people could use the social networking website, e-mails or other forms of the internet to threaten someone. As they don't have to meet face-to-face, threatening someone online is rather simple.

Cyber Battle: sometimes, a personal conflict could turn into a huge issue. A group of individuals of a country could form a group to attack another group from another country and it could turn into a country vs. country cyber battle very quickly.

04. Give short description on cyber Crime and cyber Battle.

Answer: Cyber- Crime: The crime which is committed by using ICT is called cyber-crime. Those who use email are more or less attacked by this cyber- crime. Spam is the unwanted, unnecessary and pernicious email sent to a user's mailbox continuously. Time and money are spent to take measure against the spam attacks. A major part of a cyber- crime is deceiving. Using fake identity and giving a piece of wrong information, they try to deceive people. For example, the announcing of huge financial offer through email. Sometimes objectional information of a man is spread out in the internet either for rivalry, or to have political gain, or for any dishonest intention. It is possible to stop it if it can be done by using any responsible organisation, but most of the time it is done concealing the identity, and in that case, it becomes tough to stop it. Moreover, by using the social networking sites, an unscrupulous person can harass somebody. On the internet. as nobody come face to face a person can easily threat another person.

Cyber battle: The personal conflict among people can take a crucial turn. A group or community or a country being organised can proclaim battle against another group, community or country. It happened against political parties of different ideology or ideal, and thus the cyber rules are violated.

05. What is Hacking? Describe the classification of Hacker.

Answer: Hacking means getting into any computer system or network without the permission of the concerning authority or the users. Those who do this work are called hacker.

Classification of hackers: The hacker community has divided themselves into different groups: White hat hacker, black hat hacker, gray hat hacker, etc. White hat hackers try to find out the loopholes of the security measures of a system. They are called 'Ethical Hackers'. On the other hand, black hat hackers get into the system for a dishonest purpose.

06. What is online Identity? Write down the tips to protect the secrecy of password.

Answer: Online identity is a social identity that an Internet user establishes in online communities and website.

Tips to protect the secrecy of your password are given below:

- a) Using long password instead of short one. Favourite sentences can be used if necessary.
- b) Both the capital and small letters can be used instead of using either capital or small letters.
- c) Using strong password. Creating password with word, sentence, number and symbol. For example; Z26al s a l r 8al @gmail.com.
- d) There is a scope to verify the strength of password online. Verifying the strength of password by using the scope and if it becomes weak, strengthen it.
- e) If we use any system run by any people, we should log out before leaving the place.
- f) WE should use password manager, such as, lastpass, keepass, etc.
- g) We should develop the practice of changing password.

07. How does malware work? Describe various types of Malware.

Answer: There is a possibility of attack by malware in the computers where the security system of software is faulty. It is possible to create malware and make the software malfunctioning if there is a fault in the design of the software too. Among the operating system running currently in the world the malware of windows operating system is larger than that of the other operating system. One of the reasons is that most of the computer user windows operating system, but no one is aware of its danger. If any fault is detected in operating system, malware is created by picking up the fault. The malware was small in number

before the explosive progress of internet. When it was made possible to spread malware through internet the number of malwares is increasing in an alarming rate.

Types of malware

The following are the most common of identified malware:

- a) Computer virus
- b) Computer worm
- c) Trojan horse

The emphasis is given not only on the difference of nature but also on the difference of contagious factors between computer virus and computer worm. Computer virus is such kind of malware that attaches itself with an executable file, and when the computer user runs that file the virus attacks other executable files automatically. When it is spread it is transmitted to other computers, that is, it cannot be spread out without the interference of the user. On the other hand, worm, being active automatically spreads out from network to works in such a way that it hides its identity under the guise of useful software and the user use it confidentially and it damages their computer.

08. What is called password? Write about the techniques to protect the secrecy of password.

Answer: Password: A password is a word or string of characters used for authentication to prove identity or access approval to gain access to a resource which is to be kept secret from those not allowed access.

Techniques of maintaining the secrecy of password--

- a) Use long password instead of short one. Favourite sentence can be used if necessary.
- b) Both the capital and small letters can be used instead of using either capital or small letter.

- c) Use strong password. Create password with word, sentence number and symbol. For example- E# Di (2n@ry).
- d) There is a scope to verify the strength of password online.
- e) If you use any system run by many people (as Cyber cafe, Union Information and service Center), log out before leaving the place.
- f) Develop the practice of changing password.
- g) Use password manager, such as, lastpass, keepass etc. as many users use.

09. How can ICT play a vital role eradicating corruption in Bangladesh?

Answer: Role of ICT in eradicating corruption: Corruption is common in almost every countries of the world and also in Bangladesh. So, to protect self-existence, everyone is trying to fight against this corruption with the help of modern technology by using them. Among them information and communication technology is a major part of modern technology. By using trace software criminal are being arrested by law enforcing agency. For this reason, criminals and crimes are reducing day by day from our society. Then, we can say about various types of security software which are being used to protect customers' accounts and their information. By using these software banks and industries can follow up their all customers in a second. For this reason, no one can occur a crime. In this way ICT plays a vital role to eradicate corruption in Bangladesh.

10. What is virus? How can you protect your computer from virus?

Answer: Virus: Virus is one kind of harmful software or malware that is reproducible and can be transmitted from one computer to another computer.

It is dangerous to us without reinstalling operating system if a computer is affected by viruses. But there are various methods of fixing

a virus infected computer. Deleting the virus is method. We all know that prevention is better than cure. some technique is given below to protect the computer from virus----

* Use antivirus software and keep it updated.

* Take caution before using any of pen drive or portable hard drive. Definitely check for virus before using.

* Stay safe from harmful websites.

11. What is online identity ? What are the main differences between cyber crime & copy right?

Answer: Online identity: The identity which expresses individual on social network, blog or website is called online identity .

The main difference between cybercrime and copyright are given below-----

Cyber-Crime	Copy right
1. The crime which is committed by using ICT is called cyber-crime.	1. Copyright is a legal right, that grants the creator of an original work exclusive rights to determine and decide whether, and under what conditions, this original work may be used by others.
2. Threatening someone via using internet is cyber- crime.	2. Using someone 's writing or invention in someone's personal works without the permission of the concerned person is the violation of copy right.
3. Most of the cases, cyber- crime is harmful for the society.	3. Copyright is a from of intellectual property, applicable to certain forms of creative work.

4. Cyber - crime may be occurred by an individual person or a group of people.	4. Violation of copy right is mainly done by an individual person.
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12. What are the main differences between residential & non residential virus?

Answer: The main difference between residential and non- residential virus is given below.

Residential virus	Non- residential virus
1. Installs itself as part of the operating system when executed.	1. When executed, scans the disk for targets, infects them.
2. It remains in RAM from the time when the computer is booted up.	2. It does not remain in memory after it has execution.
3. Resident viruses overwrite interrupt handling code or other functions.	3. Non- resident virus does not overwrite interrupt handling code or other functions.

13. What is virus? what is the difference between microbial virus and computer virus?

Answer: Virus: Virus is one kind of harmful software or organisms that is reproducible and can contaminated from one host to another host.

Difference between microbial virus and computer virus is given below --

Computer virus	Microbial Virus
1. Computer viruses infect computers.	1. Microbial viruses infect living organisms.

2. Computer viruses are formed with pieces of digital data.	2. Microbial viruses are formed with cells, atoms.
3. Computer viruses use the internet, local connections, and external storage media to transfer themselves.	3. Microbial viruses use the air and liquids .
4. Useful viruses do not exist.	4. Some viruses have useful effects for the host.