Time: $\mathbf{3 . 0 0} \mathbf{h r}$.

## Part A: Grammar (60 Marks)

1. Fill in the blanks with the words from the box. You may need to change the forms of some of the words. You may need to use one word more than once.

| play | the | on | to | a | with | by | put | For | as |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

Present age is referred (a) $\qquad$ as an information age. (b) $\qquad$ key to information age is the use of digital technology, that is, information and communication technology (ICT). (c) $\qquad$ the needs of the society, ICT (d) $\qquad$ the most significant role in changing, updating and advancing $\qquad$ present society. In Bangladesh, we (f) $\qquad$ special emphasis (g)
$\qquad$ the use of digital technologies for improvement of our activities with (h) $\qquad$ goal to realize vision 2021. (i) $\qquad$ 2021, after 50 years of independence, we are determined to be a middle income country (j) $\qquad$ peace, prosperity and dignity.
2. Fill in the blanks with suitable words.
$\mathbf{0 . 5 \times 1 0 = 5}$
Once there was (a) $\qquad$ idle farmer in a village. He had a few acres of (b) $\qquad$ .But he did not plough them well. He did not sow seeds in time. So, he could not raise good (c)___. As a result, he was always in want (d)__food. The farmer had a kitchen garden (e) __ his house. One day he saw that the fence (f) ___the garden was broken. He said to himself, "I shall repair the' fence tomorrow." But he (g) $\qquad$ forgot it the next day. Some days passed (h) $\qquad$ . The farmer did not repair the (i) $\qquad$ fence. One day, he sat lazily before the house. He saw some goats entering the garden (j)___the broken fence.
3. Make five sentences using the parts of sentences from each column of the table below.

| Efforts |  | its interest without struggle. |
| :--- | :--- | :--- |
| Life | become | not a real triumph if both the sides are not equally |
| Games | matched. |  |
| A victory | loses | be |
| Really, life |  | one kind of continuous examination. |
|  |  | dull if there is no competition. |
|  | extremely needed for the progress in life. |  |

4. Complete the following text with right forms of the verbs given in the box.

| is | speak | describe | remember | consider |
| :--- | :--- | :--- | :--- | :--- |
| vary | has | like | are | mean |

We (a) $\qquad$ two terms to (b) $\qquad$ our social behaviour- 'etiquette' and 'manners'. Etiquette' (c) a French word and it (d) $\qquad$ the rules of correct behaviour in society. The word 'manners' means the behaviour that (e) ____ to be polite in a particular society or culture. Manners can (f)
$\qquad$ good or bad. For example, it is a bad manner to (g) $\qquad$ with food in the mouth. No one (h) $\qquad$ a bad-mannered person. (i) $\qquad$ that etiquette and manners (j) $\qquad$ from culture to culture and from society to society.
5. Change the narrative style of the following text.
"Where are you going?" said the merchant. "I was coming to see you." "What do you want?" "To earn my bread by the labour of my hands." "Do you really want work?" said the merchant. "Yes, if you have any." "Then follow me and carry a box from a shop to my house." "I don't see how I can do that," said the youth.
6. Change the sentences according to directions.
(a) We belong to a country and its name is Bangladesh(Simple)
(b) Once we were not independent (Affirmative)
(c) We were oppressed for many years (Active)
(d) We got our independence by defeating the Pak Army in 1971 (Compound)
(e) Many of our freedom fighters embraced martyrdom fighting against the enemies (Complex)
(f) We should remain grateful to them ( Interrogative)
(g) They sacrificed their lives to free the country from the enemies(Complex)
(h) Their sacrifices did not go in vain (Affirmative)
(i) It is for their sacrifice that we got independence (Simple)
(j) They fought very bravely (Exclamatory)
7. Complete the following sentences.
(a) Hardly had I reached the school $\qquad$
(b) Make proper use of your time lest
(c) I shall lend you some money provided $\qquad$
(d) Faults are thick $\qquad$
(e) He behaves as though
8. Complete the text adding suffixes, prefixes or the both with the root words given in the parenthesis.
$0.5 \times 10=5$
The aim of (a) $\qquad$ (educated) is to make a man fully equipped to be (b) $\qquad$ (use) to himself and to society. A (c) $\qquad$ (true) educated person should be self-reliant with regard to his (d) $\qquad$ (person) needs. He should be well mannered, (e) $\qquad$ (thought), sympathetic and co-operative. He should be (f) $\qquad$ (true), honest, punctual and (g) $\qquad$ (duty).
Punctuality is a virtue that make a nation (h) $\qquad$ (prosper). An educated person tries to (i)
$\qquad$ (move) the sufferings of his country men. He also helps others in attaining (j) $\qquad$ (self-reliant).
9. Make tag questions of these statements.
(a) Hello, Selim. There are many disabled people in our country, $\qquad$ ?
(b) You are right, Rayhan. Their number is increasing day by day, ___?
(c ) But they aren't liable for this condition, $\qquad$ ?
(d) It is true. Moreover, they can be of many use to the society if they are given scope, $\qquad$ ?
(e) I believe so. Everybody ought to treat them well, $\qquad$ ?
10. Complete the passage using suitable connectors.
(a) $\qquad$ flood is considered to be a natural calamity, it is no doubt a blessing for the people. It is considered to be a blessing in the sense (b) $\qquad$ it makes the soil alluvial. (c) $\qquad$ silt is scattered over land after land (d) ____ flood and makes the soil fertile. So, it can be said that the flood has (e) $\qquad$ constructive and destructives sides.
11. Use capitals and punctuation marks where necessary in the following text.
once my mother said to me who came to you my friend rafiq mom she asked what did he want i said his mother is ill he needs some money i have given him five hundred taka my mother said nice.

## Part B: Composition (40 Marks)

12. Suppose, you are Rajesh Chowdhury. Recently, you have seen a vacancy advertisement in "The Daily Star" for the post of an Accounts Officer in a private company .Now, write a C.V with a cover letter for the post. Your CV should not exceed one page .
13. Suppose, you are Jishan/Moumita. You are in Chattogram Zilla School, Chattogram, Your school has a common room but it lacks some facilities. Now, write an application to your Headmaster for increasing common room facilities.
14. Write a paragraph on "A School Magazine".
15. Write a composition on "Population Problem in Bangladesh". 12

Time: $\mathbf{3 . 0 0} \mathbf{~ h r}$.

Subject: English First Paper

Part- A : Reading Test (50 Marks)

## Read the following passage and answer the questions $1 \& 2$.

The advantages of the Internet technology have made it possible to emerge a good number of websites to facilitate social relations among people around the world. These are known as social networking services or social networks. At present, Facebook is the most popular. Google+, Twitter, Linkedin, etc. are other frequently used social services. Social network services are web-based and hence, provide ways for the users to interact through the Internet. These services make it possible to connect people sharing interests and activities across the borders and thus have made a lot for the users to feel that they really live in a global village. Why are social networks expanding so fast? The answer is simple. Most of the social services are cost free. You can make use of them free, paying a very little to your Internet service provider. Secondly, you can make your personal profile public before the entire online community. It is like presenting yourself before the entire world. You can also look into other people's profile if you are interested. It is simple and easy. Thirdly, social networks allow users to upload pictures, multimedia contents and modify the profile. Some services like Facebook allow users to update their profiles. Fourthly, networks allow users to post blog entries. User profiles have a section dedicated to comments from friends and other users. Finally, there are privacy protection measures too. A user himself or herself decides over the number of visitors/viewers, and what information should be shared with others.

1. Choose the best answer from the alternatives.
(a) Which of the following has the closest meaning of the word 'advantage' used in line 1?
(i) convenience
(ii) inconvenience
(iii) inappropriate
(iv) uncertain
(b) In the passage, the word "emerge" means $\qquad$ .
(i) disappear
(ii) come into
(iii) come out
(iv) come by
(c) Users' profile has a section for $\qquad$ .
(i) others remark
(ii) outsiders' editing
(iii) discouraging social relation (iv) promoting social bonding
(d) The utility of social website is $\qquad$ -.
(i) abusing social network
(ii) creating social awareness
(iii) discouraging social relation (iv) promoting social bonding
(e) What is the base of social networks?
(i) Internet
(ii) web
(iii) computer (iv) mobile phone
(f) In the above passage, the writer has $\qquad$ view on social networks.
(i) critical
(ii) positive
(iii) negative (iv) neutral
(g) As is mentioned in the passage, social networks enable the users to decide their own sense of $\qquad$ .
(i) selecting friends
(ii) crossing borders
(iii) storing photos
(iv) sharing information
2. Give short answer to the following questions.
(a) What is social network?
(b) What is the advantage of social networks?
(c) What is the reason behind the emergence of so many websites? Describe in brief.
(d) How can the users take privacy protection measures?
(e) How are these networks making a global community?
3. Read the following text and fill in each gap with a suitable word based on the information of the text. $1 \times 5=5$

The environment must be protected and every one must play a role for it. The customer society is mainly accountable to the environmental crisis. Before buying a thing, one has to think of its necessity sustainability, durability. One should buy durable items and repair them when necessary. Thus new things can last a long time and be passed on the future. We can donate or sell many things when we no longer use them. Re-cycling is a good way of using things properly. Otherwise, we can send goods digging land fill or have them burned up, Recycling drink and food cans will make less trash and less pollution. A company can also make new cans from the old ones.

Everyone must play a part in (a) - - the environment. Before buying a thing, a buyer has to consider whether it is necessary, (b) — and durable, (c) ——or selling of unusable thing is a proper way. We can (d) ——drink and food can. It will lessen (e) - and pollution.

## Read the passage and answer the questions 4 \& 5 .

Humayun was the eldest son of Babar. He was born in 1508 and breathed his last in 1556. He was appointed the governor of Badakshan at the age of 20. On the eve of the Battle of Panipath in 1526, he was sent against Hamid Khan who was defeated near Hissar Firoza. One year after he was sent to Badakshan, he returned to Agra in 1529. After the death of Babar, Humayun ascended the throne on December 30, 1530. Humayun had to face many difficulties at the time of his accession to the throne. One year after the death of his father he beseized the fort of Kalinjar. The seize lasted for many months and Humayun was forced to make peace. He defeated the Afghans in August 1532 in the battle of Dadrash. After defeating the Afghans, he seized the fort of Chunar under Sher Khan in the same year. The seize lasted for four months starting from September. After his return from Chunar, Humayun wasted two years in feasts and festivals at Agra and Delhi.


| Biography of Humayun |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Who | What | Event/Activity | Time/When | Place/Where | Associated event |
| Humayun |  | (i) | $\begin{aligned} & \text { December 30, } \\ & 1530 \text { (ii) } \end{aligned}$ |  | had to face many difficulties |
| Humayun | Battle | (iii) | in August 1532 | in the battle of Dadrash |  |
| Humayun | feasts and festivities | (iv) | after his return from Chunar | (v) |  |

5. Write a summary of the above passage in your own words.
6. Match the parts of sentences given in column ' $A$ ', ' $B$ ' and ' $C$ ' to write five complete sentences.

| Column A | Column B | Column C |
| :--- | :--- | :--- |
| (a) Our total <br> environment | (i) of the environment <br> are | (i) of the environment. |
| (b) The main <br> elements | (ii) are disturbed | (ii) balanced our <br> favourable. |
| (c) There are <br> relationships | (iii) influences our life | (iii) men, animals, <br> plants, soil, air and <br> water. |
| (d) When these <br> relationships | (iv) to keep the <br> environment | (iv) and our way of <br> living. |
| (e) So, it is our duty | (v) among these <br> elements | (v) life becomes difficult <br> or impossible. |

7. Put the following parts of the story in correct order to re write the whole story. Only the corresponding numbers of the sentences need to be written.
(a) Trump won the general election on November 8, 2016, in a surprise victory against Democratic opponent Hillary Clinton.
(b) He was born on 14 June, 1946 in Queens, New York City.
(c) He commenced his presidency on January 20, 2017.
(d) Donald John Trump is the 45th and current President of the United States.
(e) He earned an economics degree from the Wharton School.
(f) During his real estate career, Trump built, renovated and managed numerous office towers, hotels, casinos and golf courses.
(g) Before entering politics, he was a businessman and television personality.
(h) He then took charge of the Trump Organization, the real estate and construction firm founded by his paternal grandmother.

## Part- B : Writing Test (50 Marks)

8. Write a paragraph on "Environmental Pollution".
9. Read the beginning of the story. Add at least ten sentences to complete the story.

From the very boyhood Bayzid Bostami was very helpful to his mother. He was also very obedient. An interesting event took place one night. He was studying.....
10. The graph below shows yearly imports and exports (Billion Dollars) of a country. Describe the graph in 150 words. You should highlight and summarize the information given in the graph.

11. Write a letter to your younger brother about the importance of learning English.
12. Suppose, you are Arian. And your friend is Tonny. He is a chain smoker. Now, write a dialogue between you and your friend about the dreadful effect of smoking.

## সময়: ২ ঘণ্টা ৩০ মিনিট

বিষয়: সাধারণ গণিত (আবশ্যিক) সৃজনশীল প্রশ্ন
পূণমান: ৭০
/বি.দ্র. : বীজগণিত অংশ থেকে ২টি , জ্যামিতি অংশ থেকে ২টি, ত্রিকোণমিতি ও পরিমিতি অংশ থেকে ২টি এবং পরিসংখ্যান অংশ থেকে ১টি করে মোট ৭টি প্রশ্লের উত্তর দিতে হবে।]

## ক-বিভাগ: বীজগণিত (যে কোনো ২টি প্রশ্নের উত্তর দাও)

১। $\mathrm{P}(\mathrm{x})=\mathrm{x}^{4}-4 \mathrm{x}^{3}+5 \mathrm{x}^{2}+11 \mathrm{xk}+6 \mathrm{k}$ এবং $\mathrm{Q}(\mathrm{x})=\frac{1-3 \mathrm{x}^{2}+\mathrm{x}^{3}}{\mathrm{x}(1-\mathrm{x})}$
(ক) $Q(-1)$ নির্ণয় কর।
(খ) k এর কোন মানের জন্য $\mathrm{P}(-1)=0$ হবে ?
(গ) প্রমাণ কর যে, $\mathrm{Q}\left(\frac{1}{\mathrm{~m}}\right)=\mathrm{Q}(1-\mathrm{m})$ ।
२। $\mathrm{P}=\sqrt[3]{8}, \mathrm{Q}=8, \mathrm{R}=\sqrt[3]{27}$ এবং $\mathrm{M}=\frac{8}{3}$
(ক) $\log _{5}(\sqrt[3]{5} \cdot \sqrt{5})$ এর মান নির্নয় কর।
(খ) প্রমাণ কর যে, $\frac{\log \sqrt{\mathrm{P}}+\log \sqrt{\mathrm{Q}}-\log \mathrm{R}}{\log 16-\log 9}=\frac{1}{2}$
(গ) $\frac{\mathrm{P}^{12}}{\mathrm{R}^{16}} \times\left(\frac{\mathrm{Q}}{\mathrm{M}}\right)^{16}=16^{\mathrm{x}-2}$ হলে, x এর মান নির্ণয় কর।
৩। একটি সমান্তর ধারার প্রথম পদ $a$, সাধারণ অন্তর d, শেষপদ p এবং n সংখ্যক পদের সমট্টি $\mathrm{S}_{\mathrm{n}}$ ।
(ক) $1,-\frac{2}{3}, \frac{3}{5},-\frac{4}{7}, \ldots \ldots \ldots$ অনুক্রম্মের সাধারণ পদ নির্ণয় কর।
(খ) প্রমাণ কর যে, $\mathrm{S}_{\mathrm{n}}=\frac{\mathrm{n}}{2}\{2 \mathrm{a}+(\mathrm{n}-1) \mathrm{d}\}$ ।
(গ) $\mathrm{a}+10 \mathrm{~d}=55$ হল্েে $\mathrm{S}_{21}$ এর মান নির্ণয় কর।

## খ-বিভাগ: জ্যামিতি (যে কোনো ২টি প্রশ্নের উত্তর দাও)

8। $\mathrm{a}=6$ সে.মি., $\mathrm{b}=4.5$ সে.মি., $\angle \mathrm{x}=75^{\circ}$ এবং $\angle y=30^{\circ}$
(ক) পেন্সিল, স্কেল ও কম্পাসের সাহায্যে $\angle x$ অঙ্কন কর।
(খ) উদ্দীপকের তথ্যের আলোকে একটি ট্রাপিজিয়াম অঙ্কন কর যেখানে a ওb ট্রাপিজিয়ামের সমান্তরাল বাহৃদ্বয় এবং বৃহত্তর বাহু সংলগ্ন কোণ
দুইটি $\angle \mathrm{x}$ ও $\angle \mathrm{y}$ । (অঙ্কনের চিহ্ ও বিবরণ আবশ্যক )
(গ) a ও b কে কর্ণ ধরে একটি রম্বস অঙ্কণ কর। (অঙ্কনের চিহ্ণ ও বিবরণ আবশ্যক )
৫। $\triangle \mathrm{ABC}$ এবং $\triangle \mathrm{PQR}$ দুইটি সদৃশকোণী ত্রিভুজ।
(ক) সদৃশকোণী ত্রিভুজের দুটি বৈশিষ্ট লখ।
(গ) প্রমাণ কর যে, $\frac{\mathrm{AB}}{\mathrm{PQ}}=\frac{\mathrm{BC}}{\mathrm{QR}}=\frac{\mathrm{AC}}{\mathrm{PR}}$
(ঘ) প্রমাণ কর যে, $\frac{\Delta \mathrm{ABC}}{\triangle \mathrm{PQR}}=\frac{\mathrm{AB}^{2}}{\mathrm{PQ}^{2}}=\frac{\mathrm{BC}^{2}}{\mathrm{QR}^{2}}=\frac{\mathrm{AC}^{2}}{\mathrm{PR}^{2}}$
৬। O কেন্দ্রবিশিষ্ট বৃত্তে ABCD চতুর্ভুজটি অর্ত্তলিখিত এবং AC ও BD কর্ণদ্বয় পরষ্পর E বিন্দুতে ছেদ করে।
(ক) উপরের তথ্যের আলোকে চিত্রটি অঙ্কণ কর।
(খ) প্রমাণ কর যে, $\angle \mathrm{AOB}+\angle \mathrm{COD}=2 \angle \mathrm{AEB}$ ।
(গ) $\angle \mathrm{ABC}+\mathrm{ADC}=180^{\circ}$ হলে হলে প্রয়াণ কর যে, $\mathrm{A}, \mathrm{B}, \mathrm{C}, \mathrm{D}$ বিন্দুগুলো সমবৃত্ত।

## গ-বিভাগ: ত্রিকোণমিতি ও পরিমিতি (যে কোনো ২টি প্রশ্নের উত্তর দাও)

৭। একটি ঘনকের পৃষ্ঠতনেের ক্ষেত্রফল একটি সমবৃত্তভুমিক বেলনের বক্রতলের সমান। বেলনটির বক্রপৃষ্ঠের ক্ষেত্রফল 2400 বর্গ সেমি এবং উচ্চতা 18 সে.মি.।
(ক) আয়তাকার ঘন বস্তুর পৃষ্ঠতল এবং কর্ণ নির্ণয়ের সূত্র লিখ।
(খ) ঘনকটির কর্ণের দৈর্ঘ্য নিণর্ণ কর।
(গ) বেলনটির আয়তন নির্ণয় কর।

৮-। একটি রম্বসের পরিসীমা 68 সে.মি.। এর বৃহত্ত কর্ণের দৈের্ঘ্য 30 সে.মি.।
(ক) বৃত্তাপপর দৈর্ঘ্য ও বৃত্তকলার ক্ষেত্রফল নির্ণয়ের সূত্র লিখ।
(খ) রম্বসটির ক্রেত্রফল নির্ণয় কর।
(গ) রম্বলের ক্ষেত্রফলের সমান ক্ষেত্রফলের সমান বিশিষ্ট একটি সুষম মড়ভুজের কেন্দ্র থেকে কৌণিক বিন্দুর দূরত্ব নিণর্য কর।
৯। $A=\sec \theta, B=\operatorname{cosec} \theta, C=\tan \theta$ এবং $D=\cot \theta$ হলে -
(ক) দেখাও বে, $\mathrm{C}+\mathrm{D}=\mathrm{AB}$
(খ) প্রমাণ কর ভে, $\frac{\cos \theta}{1-\mathrm{C}}+\frac{\sin \theta}{1-\mathrm{D}}=\sin \theta+\cos \theta$
(গ) প্রমাণ কর ভে, $\frac{\mathrm{C}}{1-\mathrm{D}}+\frac{\mathrm{D}}{1-\mathrm{C}}=\mathrm{AB}+1$

## ঘ-বিভাগ: পরিসংখ্যান (যে কোনো ১টি প্রশ্নের উত্তর দাও)

১০। নিচে ৩০ জন ছাত্রের গণিতে প্রাপ্ত নম্বর দেওয়া হলঃ
$40,35,60,55,58,45,60,65,45,50,60,64,58,60,48$,
$36,61,50,46,66,55,61,68,67,50,54,51,59,46,48$
(ক) শ্রেণী ব্যাপ্তি ৫ ধরে শ্রেণীী সংখ্যা নিণত্য কর।
(খ) গণসংখ্যা সারণী তৈরী কর।
(গ) গণসংখ্যা সারণী থেকে সংক্ষিপ্ত পদ্ধতিতে গড় নিণর্য কর।
১১। দশম শ্রেণীর জন 50 ছাত্রের গণিতত প্রাপ্ত নম্বরের গণসংখ্যা নিবেশেশ সারণী নিম্নর্পপঃ

| নম্বর | $51-$ <br> 55 | $56-$ <br> 60 | $61-$ <br> 65 | $66-$ <br> 70 | $71-$ <br> 75 | $76-$ <br> 80 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| गिক্ষर्थाর সংখ্যা | 5 | 7 | 16 | 10 | 8 | 4 |

(ক) প্রদত্ত উপাত্তের প্রুরক নিণয় কর।
(খ) প্রদত্ত উপাত্তের মধ্যক নিণর্য কর।
(গ) প্রদত্ত গণসংখ্যা নিবেশনর অজিভ রেখা অঙ্কন কর।

