

**Khulna University of Engineering & Technology**  
**Department of Building Engineering & Construction Management**  
 B. Sc. Engineering 1<sup>st</sup> Year 1<sup>st</sup> Term Regular Examination, 2016  
**CE 1123**  
**(Surveying)**

Full Marks: 210

Time: 3 hrs

- N.B.**
- i) Answer any three questions from each section in separate script.
  - ii) Figures in the right margin indicate full marks.
  - iii) Normal graph paper will be provided during exam for answering question no. 2 (a).

**Section – A**

1. (a) Define the term 'surveying'. Why surveying is important in building engineering project? (07)
- (b) Distinguish between: (i) plan and map (ii) check line and tie line (iii) well and ill conditioned triangles (iv) Gunter's chain and engineering chain. (08)
- (c) Draw the following figures with proper notations: (i) The 3:4:5 method (ii) To run a parallel to a given inaccessible line through a given point (iii) Obstacles in both chaining and ranging. (20)

Plot the following cross - stuff survey of a field ABCDEFG and calculate its area below figure.

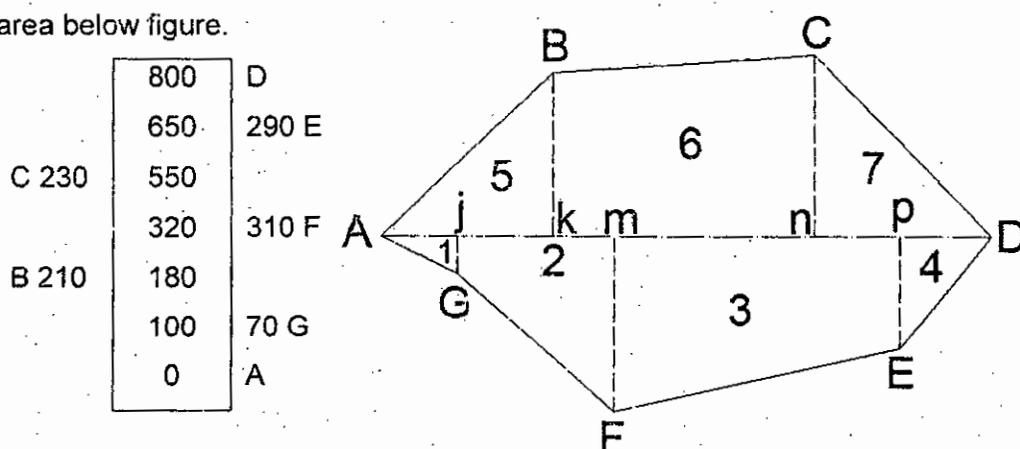


Figure:1(a)

Figure: 1(b)

2. (a) Define horizontal equivalent. What are the characteristics of contours? (17)
- A 3X3 grid with the following RL found from a survey. Each grid with dimension 5mX5m. Draw the contour lines of 98 and 102 with proper legend. (Use normal graph paper for proper illustration). [See figure: 2 (a)]

M	N	O	P
I	J	K	L
E	F	G	H
A	B	C	D

Points	RL	Points	RL
A	94.34	I	97.40
B	98.22	J	95.50
C	99.50	K	99.23
D	98.35	L	96.25
E	96.75	M	98.90
F	98.35	N	99.25
G	96.25	O	101.75
H	97.70	P	97.75

Figure: 2(a)

- (b) Illustrate fly leveling with proper notation. Describe two peg test with neat sketch. The following figures were extracted from a level book, some of the entries being illegible owing to exposure to rain. Insert the missing data by rise and fall method. [See figure:2 (b)] (18)

Station	B.S	I.S	F.S	Rise	Fall	R.L.	Remarks
1	2.285					0.600	BM1
2	1.650		X	0.020			
3		2.150			X		
4	X		1.960	X			
5	2.050		1.925		0.300		
6		X		X		0.395	BM2
7	1.690		X	0.340			
8	2.865		2.100		X		
9			X	X		1.565	BM3

Figure: 2(b)

3. (a) Write down the name of the methods based on measurements scaled from map and mechanical methods for determining areas. Deduce and explain Simpson's one-third rule with neat sketch. (19)

The following perpendicular offsets were taken.

Chainage (m)	0	15	30	45	60	70	80	100	120	140
Offsets (m)	7.25	6.5	10.2	11.3	13.2	9.5	10.2	9.8	9.8	9.5

Calculate the area between the survey line, the edge and offsets by (i) Trapezoidal rule (ii) Prismoidal rule (iii) Average Ordinate Rule.

- (b) Write down the name of the instruments used for astronomical observations. (16)

An observer was 30 ft. above level of sea. An observation was made on the sun using the lower limb and the reading was  $46^{\circ} 40' 25''$  with face left. The semi-diameter of the sun at time of observation was found to be  $15' 58.7''$ . The face left and face right observations of the theodolite on the top of an electric post were  $12^{\circ} 15' 56''$  and  $12^{\circ} 13' 42''$  respectively. Find net correction and true altitude of sun.

4. (a) What do you mean by GIS? Write down some applications of GPS. (05)

- (b) When do you recommend plane table survey? Briefly state the disadvantages of it. (05)

- (c) Write down the name of the instruments used in plane table survey. Discuss briefly Bessel's method of resection with proper illustration. (25)

To find the elevation of the top of the minar of KUET Mosque, observations were made from P and R @ 60 m apart. The horizontal angle measured at P and R with top of minar were  $60^{\circ} 30'$  and  $68^{\circ} 18'$  respectively. The angle of elevation at the top of minar were  $10^{\circ} 12'$  and  $10^{\circ} 48'$  @ P and R respectively.

Staff reading on BM was 2.073 m and 1.965 m for P and R respectively. (a) Calculate, check and % error of elevation of top minar if BM is 418 m. (b) If horizontal angle from P to R be  $32^{\circ} 25' 22''$  then find aerial distance between KUET gate and KUET mosque minar. Given  $\theta_3 = \theta_4 = 45^{\circ} 12' 22''$ ,  $\alpha_3 = \alpha_4 = 22^{\circ} 22' 15''$  respectively.

### Section – B

5. (a) Define traverse surveying. Write down the characteristics of a closed traverse. (07)
- (b) Define: (i) Magnetic bearing; (ii) Local attraction; (iii) Independent coordinates; (iv) Closing error. Describe the graphical method for balancing closing error. (13)
- (c) Calculate the length and bearing of the closing side DA of the closed traverse ABCDA from the following data: (15)

Side	Length (feet)	W.C.B
AB	300	$260^{\circ} 15'$
BC	900	$190^{\circ} 30'$
CD	600	$80^{\circ} 45'$
DA	-	-

6. (a) Prove that  $\Delta_n = \Delta_{n-1} + \delta_n$ ; by Rankie's method of tangential angle where the symbols bear their usual meanings. (10)
- (b) Define super elevation. Derive the expression of minimum radius of the curve for the vehicle to pass safely with the given speed  $v$  in highways and railways. (12)
- (c) Two straight lines meet at a chainage 3500 m. A right handed circular curve of 300 m radius join them in a deflection angle between the straight line is  $45^{\circ}$ . Calculate the necessary data to set out the curve by Rankine's method. Take chord interval as 30 m. (13)
7. (a) Define: (i) Photo mosaic; (ii) Project surveying; (iii) Remote sensing; (iv) Total station. Mention the important operations of total station in surveying. What are the advantages of using total station over other conventional surveying instrument. (15)
- (b) Show that the height displacement of a point is proportional to its height above the mean sea level and the distance of its top image from plumb point. (10)
- (c) Photographs at a minimum scale of 1:10000 are to be taken for a road design map of a hilly area having elevation ranges from 500 m to 800 m. If The focal length of the camera is 150 mm then what should be the flying height of the aircraft above MSL? What will be the largest scale? (10)

8. (a) Write short notes on anallactic lens and house setting. Write down the procedure of house setting in the field. (09)

(b) Derive the expression of distance and height for inclined sight when the staff is held vertical. (10)

(c) The following observations were made in a tacheometric survey: (16)

Instrument station	Height of axis	Staff Station	Vertical angle	Hair readings (m)
A	1.35	BM	$-6^{\circ}30'$	0.905, 1.455, 2.000
A	1.35	B	$10^{\circ}20'$	0.755, 1.655, 2.500
B	1.50	C	$8^{\circ}45'$	1.500, 2.250, 3.000

Calculate the R.L. of A, B and C. Also calculate the horizontal distance AB and BC if the R.L. of BM = 500.000 m,  $k = 100$  and  $c = 0$ .

Khulna University of Engineering & Technology  
Department of Building Engineering & Construction Management  
B. Sc. Engineering 1<sup>st</sup> Year 1<sup>st</sup> Term Regular Examination, 2016  
**Ch 1123**  
**(Chemistry)**

Full Marks: 210

Time: 3 hrs

- N.B.** i) Answer any three questions from each section in separate script.  
ii) Figures in the right margin indicate full marks.

**Section – A**

1. (a) What is molar conductance? Show graphically the variation of equivalent (10)  
conductance against concentration for HCl, NiSO<sub>4</sub> and C<sub>2</sub>H<sub>5</sub>COOH. Explain  
the nature of these curves.
- (b) How can you explain the abnormal mobilities of H<sup>+</sup> (hydrogen ion) in solution? (10)
- (c) What is meant by transport number? Describe Hittorf's method for the (10)  
measurement of transport number of Ag<sup>+</sup> and NO<sub>3</sub><sup>-</sup> in AgNO<sub>3</sub> solution.
- (d) What is solution pressure? (05)
  
2. (a) Describe the models of electrical double layer at the interface. Distinguish (10)  
between thermodynamic potential and electro kinetic potential from double  
layer mechanism.
- (b) What do you mean by free energy by reaction? Establish thermodynamically (12)  
the relationship between E and K of cell reaction. Explain the significance of  
the relation.
- (c) Why salt bridge is used in electrochemical cell? (08)
- (d) The EMF of the following cell at 298<sup>o</sup> K is 0.445V Pt, H<sub>2</sub> (1 atm) | H<sup>+</sup> || KCl (Sat. (05)  
Sol<sup>n</sup>.) | HgCl<sub>2</sub> | Hg, Calculate the p<sup>H</sup> of the unknown solution, E<sub>cal</sub> = 0.2415V.
  
3. (a) Define corrosion. Discuss the mechanics of corrosion with suitable diagram. (10)
- (b) What is salting out effect? Discuss the effects of electrolytes on the rate of (10)  
under water corrosion.
- (c) What do you mean by sacrificial anode? Describe the principle of prevention of (10)  
corrosion by electrochemical method.
- (d) Differentiate between corrosion and erosion with suitable example. (05)
  
4. (a) Distinguish between physical adsorption and chemical adsorption. (08)
- (b) Write the assumptions of Langmuir adsorption isotherm. Deduce Langmuir (15)  
adsorption isotherm equation. Show under what conditions it becomes  
identical with Freundlich adsorption isotherm equation.

- (c) What is adsorbate? Write down the mechanism of adsorption. (05)
- (d) Mention the applications of adsorption technology in daily life. (07)

### Section – B

5. (a) What is the function of  $C_3A$ ,  $C_2S$  and  $Fe_2O_3$  for the manufacture of cement? (06)
- (b) How does setting and hardening take place in portland cement? (10)
- (c) Draw the flow diagram and discuss the wet process of manufacturing of portland cement. (13)
- (d) What do you mean by Calcareous and Argillaceous materials? (06)
6. (a) Distinguish between dye and pigment. (06)
- (b) Explain the reason for failure of paint. What are the steps involved to prevent the failure of paint. (12)
- (c) Explain the function of thinner, driers and plasticizers in paints. (09)
- (d) Write down the name of different component of paints. What are the required properties of a good paint? (08)
7. (a) Discuss the addition and condensation polymerization process giving examples. (08)
- (b) What is polymer? Discuss between homo-polymer and co-polymer. (08)
- (c) Describe the reaction mechanism of free radical polymerization. (11)
- (d) How would you differentiate thermosetting polymer from thermoplastic polymer. (08)
8. (a) What do you mean by coefficient of viscosity? Describe Ostwal viscometer method for determining the viscosity of liquid. (12)
- (b) Explain the terms with examples. (09)
- i) Additive property
- ii) Surface tension
- iii) Optical activity
- (c) The rise of water level in a capillary radius of 0.2 mm at  $20^\circ C$  is 7.4 cm. Calculate the surface tension of water. Water density  $1\text{gm.cm}^{-3}$  at  $20^\circ C$ . (06)
- (d) What is Parachor and Rheochor? How do you determine the chemical structure of benzene using parachor values? (Observed value = 206.2) (08)
-

Khulna University of Engineering & Technology  
 Department of Building Engineering & Construction Management  
 B. Sc. Engineering 1<sup>st</sup> Year 1<sup>st</sup> Term Regular Examination, 2016

**Math 1123**  
 (Mathematics-I)

Full Marks: 210

Time: 3 hrs

- N.B.** i) Answer any three questions from each section in separate script.  
 ii) Figures in the right margin indicate full marks.

**Section – A**

1. (a) Define limit of a function. Prove that  $\lim_{x \rightarrow 2} (3x + 4) = 10$  by  $(\delta, \epsilon)$  definition of (11)  
 limit of a function.
- (b) A function  $f(x)$  defined as follows: (11)  

$$f(x) = \begin{cases} \frac{x^2-9}{x-3} & \text{when } x \neq 3 \\ 5 & \text{when } x = 3 \end{cases}$$
 Discuss the continuity at  $x = 3$ . If the function is discontinuous, then how can you make this function continuous at  $x = 3$ ?
- (c) What does it mean for a function to be differentiable? Give an example of non- (03)  
 differential function.
- (d) Discuss the differentiability of  $f(x) = |x| + |x - 1|$  at  $x = 1$ . (10)
2. (a) Using first principle, find the differential coefficient of  $\tan^{-1} x$ . (10)
- (b) State Leibnitz's theorem and applying this theorem find (14)  
 $(1 - x^2)y_{n+2} - (2n + 1)xy_{n+1} - (n^2y^2)y_n$  where  $y = e^{a \sin^{-1} x}$
- (c) Verify Rolle's theorem for  $f(x) = x(x + 3)e^{-x/2}$  in  $[-3, 0]$  (11)
3. (a) If  $f(x, y, z) = \log_e(x^3 + y^3 + z^3 - 3xyz)$ , then find  $\frac{\partial^2 f}{\partial x^2} + \frac{\partial^2 f}{\partial y^2} + \frac{\partial^2 f}{\partial z^2}$ . (11)
- (b) Define maximum of a function. Show that the maximum rectangle inscribed in a (12)  
 circle is a square.
- (c) State Rolle's theorem. Define indeterminate form. Evaluate  $\lim_{x \rightarrow 0} x^{2 \sin x}$ . (12)
4. (a) Define spherical triangle. Derive the following formula for a spherical triangle (13)  
 $ABC$ ;  $\cos a = \cos b \cos c + \sin b \sin c \cos A$ , where  $a, b, c$  are sides and  $A$  is an  
 angle of the spherical triangle  $ABC$ .
- (b) Given  $a = 35^\circ 42'$ ,  $\angle B = 60^\circ 25'$ ,  $\angle C = 90^\circ$ . Solve the spherical right-angled (11)  
 triangle  $ABC$ .
- (c) Find the great circle distance between the two places; Dhaka ( $23^\circ 48' N, 90^\circ$  (11)  
 $24' E$ ) and Ankara ( $39^\circ 36' N, 32^\circ 47' E$ )

## Section – B

5. (a) Write the relations between Gamma function and Beta function and find (05)

$$\Gamma\left(\frac{9}{2}\right) = ?$$

(b) Evaluate  $\int_0^{\frac{\pi}{6}} \cos^4 3x \sin^2 6x \, dx$  (10)

(c) Find the length of the asteroid  $x = \cos^3 t$ ,  $y = \sin^3 t$ ,  $0 \leq t \leq 2\pi$  (10)

(d) Find the volume of the solid generated by the revolution of the plane area (10)  
bounded by  $y^2 = 9x$  and  $y = 3x$  about the  $x$ -axis.

6. (a) Evaluate any two: (24)

(i)  $\int \frac{dx}{\sin(2x - a) \cos(2x - b)}$

(ii)  $\int \frac{(x + 1)}{(x^2 + 4) \sqrt{x^2 + 3}} \, dx$

(iii)  $\int x \sin^{-1} x \, dx$

(b) Find the reduction formula for  $\int \sin^n x \, dx$  (11)

7. (a) Evaluate any two: (24)

(i)  $\int_0^{\frac{\pi}{2}} \frac{\sin^3 x}{\sin^3 x + \cos^3 x} \, dx$

(ii)  $\int_0^{\pi} \frac{dx}{2 + \cos x}$

(iii)  $\int_0^{\frac{\pi}{4}} \tan^2 x \, dx$

(b) Evaluate (if possible)  $\int_1^3 \frac{dx}{\sqrt{3-x}}$  (11)

8. (a) Write the Fourier coefficients of a function having its period  $T$ . (05)

(b) Suppose  $f(x)$  is a function of period  $2\pi$  such that (20)

$$f(x) = \begin{cases} x, & \text{when } 0 < x < \pi \\ \pi, & \text{when } \pi < x < 2\pi \end{cases}$$

(i) Sketch a graph of  $f(x)$  in the interval  $[-2\pi, 2\pi]$

(ii) Find its Fourier Series expansion in  $(0, 2\pi)$

Hence (iii) By giving appropriate values to  $x$ , show that

$$\frac{\pi}{4} = 1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \dots$$

(c) Expand  $f(x) = \sin x$ ;  $(0 < x < \pi)$  in Fourier cosine series. (10)

Khulna University of Engineering & Technology  
Department of Building Engineering & Construction Management  
B. Sc. Engineering 1<sup>st</sup> Year 1<sup>st</sup> Term Regular Examination, 2016  
**Ph 1123**  
(Physics-I)

Full Marks: 210

Time: 3 hrs

- N.B. i) Answer any three questions from each section in separate script.  
ii) Figures in the right margin indicate full marks.

**Section – A**

1. (a) What is a thermocouple? Explain with suitable diagrams the terms neutral temperature and temperature of inversion of a thermocouple. (10)
- (b) Describe a platinum resistance thermometer. Explain how it works with the help of Callendar and Griffith's bridge. Give its correction. (15)
- (c) The resistance of a platinum thermometer at 0°C, 100°C and boiling points of sulphur are 2.56, 3.56 and 6.78 ohms respectively. Calculate the boiling point of sulphur on (i) the platinum resistance scale and (ii) the celsius scale correct up to the first order of approximation. Assume  $\delta = 1.5$  for platinum. (10)
2. (a) Define thermal conductivity. Show that in the steady state of a metal bar heated at one end  $d^2\theta/dx^2 = \mu^2\theta$ ; where the symbols have their usual meaning. (12)
- (b) Distinguish between conductivity and diffusivity of heat, when steam is passed through a circular tube of length  $l$ , having internal and external diameters  $a$  and  $b$  respectively; prove that the radial flow of heat out wards is given by  $2\pi kl(\theta_2 - \theta_1) / \log_e \frac{b}{a}$ . Where  $\theta_1$  and  $\theta_2$  are the steady temperatures of the inner and outer walls of the tube respectively. (13)
- (c) Heat is conducted through a slab of two slices of different materials of thermal conductivities 0.30 and 0.45 respectively. The thickness of each slice is 2 cm. If the temperature of the two outer surfaces are 100°C and 0°C, Find the temperature of the interface. (10)
3. (a) What is efficiency of an engine? Derive an expression for the efficiency of Carnot engine in terms of temperatures of the source and the sink. (13)
- (b) Explain what do you figure out by entropy, Prove that (i) The entropy of the universe is always increasing and heading towards a maximum; (ii) The charge of entropy of reversible cycle is zero. (12)
- (c) The efficiency of a Carnot engine is 1/6. If on reducing the temperature of the sink by 65°C, the efficiency becomes 1/3, Find the temperature of the source and the sink between the engine is working. (10)
4. (a) Discuss the general behavior of material under stress with reference to a stress-strain curve. (12)
- (b) Show that the excess pressure inside a soap bubble of radius  $r$  over the atmospheric pressure outside it is equal to  $4T/r$ , Where  $T$  is the surface tension of soap solution. (13)
- (c) What is the work done in blowing a soap bubble of radius 10 cm? What additional work will be performed in further blowing it, so that its radius becomes 15 cm?  $T = 30$  dynes/cm. (10)

## Section – B

5. (a) Define simple harmonic motion. Prove that the motion of a simple pendulum is simple harmonic. Hence obtain an expression for the time period of a simple pendulum. (10)
- (b) Establish the differential equation of a damped harmonic oscillator and solve it to obtain an expression for the displacement of the oscillator. Discuss the condition under which the oscillations become critically damped. (15)
- (c) The displacement of an oscillating particle at an instant  $t$  is given by,  $y = a \cos \omega t + b \sin \omega t$ . (10)  
Show that it is executing a simple harmonic motion. If  $a = 4$  cm,  $b = 12$  cm and  $\omega = 3$  radian/sec, Calculate (i) the amplitude, (ii) the time period, (iii) the maximum velocity and (iv) the maximum acceleration of the particle.
6. (a) What is Lissajous Figure? The simple harmonic vibration acting at right angles to each other have the time period in the ratio 1:2. The phase difference between the two vibrations is  $\pi/2$ . Show graphically that the resultant curve is a parabola. (15)
- (b) What is meant by the terms, the quality factor of a damped harmonic oscillator. Obtain expressions of these terms. (10)
- (c) An under damped harmonic oscillator has its amplitude reduced to 1/10 th of its initial value after 100 oscillations. Its time period is 1.15 sec (i) Calculate the damping constant and the relaxation time, (ii) If the observed value of the first amplitude of the oscillator be 2 cm, what would be its value in the absence of damping? (10)
7. (a) Show that for a plane progressive wave particle acceleration at a point  $[d^2y/dt^2] = (\text{wave velocity})^2 [v^2] \times \text{curvature of the displacement curve at the point } [d^2y/dx^2]$ . (10)
- (b) What are beats? Analytically discuss the formation of beat and show that the number of beats per second is equal to the difference in frequency of the two notes. (15)
- (c) A plane progressive wave travelling along the  $x$  direction has the following characteristics:  $a=0.3$  cm,  $v=360$  cm/sec and  $\lambda=60$  cm. (10)  
(a) Write down the equation for it (i) when displacement is zero at  $x=0$  and  $t=0$  and (ii) when displacement is maximum at  $x=0$  and  $t=0$ .  
(b) Obtain the displacement in either case at  $x=120$  cm and  $t=2$  sec.
8. (a) Discuss acoustic intensity level, acoustic pressure and reverberation. (12)
- (b) Derive an expression for the growth and decay of sound intensity in an auditorium and hence obtain Sabine's reverberation formula. (13)
- (c) An air cooler produces a sound of intensity level 60 dB. When it operates in a room maintaining intensity level 45 dB. What will be the resultant intensity? (The standard intensity is  $10^{-12}$  W-m<sup>-2</sup>) (10)
-

Khulna University of Engineering & Technology  
Department of Building Engineering & Construction Management  
B. Sc. Engineering 1<sup>st</sup> Year 1<sup>st</sup> Term Regular Examination, 2016  
**Hum 1123**  
(English)

Full Marks: 210

Time: 3 hrs

- N.B.** i) Answer any three questions from each section in separate script.  
ii) Figures in the right margin indicate full marks.

**Section – A**

1. (a) Transform the following sentences as directed: (14)  
i) Only God can help us. (Negative)  
ii) No body could ever count my love for you. (Interrogative)  
iii) She heard a song and woke up. (Simple)  
iv) She heard a song and woke up. (Complex)  
v) We live in a small house. (Complex)  
vi) The Reddison is more expensive than most other restaurant. (Positive)  
vii) It is a very awesome day. (Exclamatory).
- (b) Make sentences using the following words as directed. (12)  
But (as adverb); Match (as verb); Long (as verb); That (as adjective); School  
(as adjective); Go (as noun).
- (c) Change the following words as directed and use the changed form in (09)  
sentences.  
Benefit (into adjective); Fool (into verb); Fool (into adverb); Dear (into noun);  
Dear (into verb); Dear (into adverb).
2. (a) Make new words with each of the following prefixes and suffixes and use them (14)  
in sentences.  
A -----; Be -----; Mal -----; Super -----; ----- age; ----- hood;  
----- Ship.
- (b) Write one synonym and one antonym of the following words and use them in (12)  
sentences.  
Cordial; Disperse; Fascinate; Gallant.
- (c) Make sentences using the following phrases and idioms. (09)  
At home; At sixes and sevens; Crocodile tears; Sine die; Eat crow; Yellow dog.
3. (a) Make sentences using the following modals as directed. (14)  
i) May (To express guess about the future)  
ii) Must (To express logical deduction in the present)  
iii) Need (To express unnecessary action in the past)  
iv) Should (To express duty in the past)  
v) Could (To express polite request)  
vi) Be to (To express command)  
vii) Be going to (To express strong possibility)
- (b) Make sentences on the following structure. (12)  
i) Subject + vi + adverbial + extension  
ii) Subject + linking verb + adjective complement + extension.  
iii) Subject + linking verb + noun complement + extension.

- iv) Subject + vt + object + extension.
  - v) Subject + vt + object + adjective complement.
  - vi) Subject + vt + object + noun complement.
- (c) Identify the parts of speech of the underlined words of the following sentences. (09)
- i) Go ahead.
  - ii) It's a pretty go.
  - iii) The boat is sailing down the river.
  - iv) Take down what I say
  - v) But me no bats.
  - vi) None but almighty can help you.
4. (a) Frame Wh questions from underlined parts of the following sentences (14)
- i) It's 5 o'clock now.
  - ii) The pond is 10 feet deep.
  - iii) I read in KUET.
  - iv) Dhaka is the capital of Bangladesh.
  - v) Our liberation war took place in 1971.
  - vi) I am 50 years old.
  - vii) This pen costs Tk. 50.
- (b) Make sentences expression the following emotions / notions. (12)
- i) Apology ii) Imprecation iii) Suggestion iv) Introduction v) Invitation
  - vi) Threat
- (c) Supply a suitable word to fill in the blanks. (09)
- i) Study hard so that you ----- succeed.
  - ii) He walked as if he ----- slightly lame.
  - iii) As soon as he ----- the news he wrote to me.
  - iv) I had learnt by lesson ----- I went to bed.
  - v) ----- I been a doctor, I would give free service to the poor.
  - vi) Where have you come ----- this money?

### Section – B

5. (a) Read the following passage carefully and answer the questions that follow: (20)
- Wordsworth says "A child is the father of the man". The man includes a nation. It is really a fact. So the convention on the rights of the child was adopted by consensus at the general assembly of the United Nations in November 1989. The convention was recognised as a complete document on the rights of children. The document is formulated in 54 articles, each one of which focuses on a different aspect of children's rights. First of all a child needs to service. The rights in this regard relate to children's satisfactory living condition, which includes food, nutrition, clothing, shelter and health care facilities. Secondly a child needs to be developed physically and mentally. So the rights here relate to the development of children's mental and physical capacities, which include right to education, information, play and recreation, participation in cultural activities, freedom of thinking and religious practice. Thirdly a child should be given protection. So the rights here relate to children's protection from harmful acts and practices like separation from parents, commercial or social exploitation, physical and mental abuse, engagement in warfare, etc. Fourthly the rights relate to children's right are to be heard on decisions affecting their lives. As capacity evolved a child should have increasing opportunities to take part in the activities of society as preparation for responsible adulthood. Above all, the

rights of mobilization should be given to children. These provide a guideline on the implementation, monitoring and reporting of the rights. With the advancement of the rights of children our country can improve its strata of development for her future. So greeter emphasis may be given to children's rights and their mobilization.

Questions:

- i) What areas of a child's life should we take care of for its healthy survival?
  - ii) What does a child development mean?
  - iii) What should a child do for its preparation to adulthood?
  - iv) What does mobilization mean?
- (b) Make a précis of the above written passage (Q.5a) with a suitable title. (15)
6. (a) Write a listing paragraph on physical exercise. (Around 1200 words) (20)
- (b) Amplify the idea contained in the following statement: (15)  
"The real dignity of a man lies not in what he has, but in what he is". (Around 800 words)
7. (a) Write a report on the sports day you recently observed in your campus. (20)  
(Around 1200 words)
- (b) Write a letter to your younger brother on the role of students for a nation building. (15)  
(Around 800 words)
8. Write a free composition on any one of the followings. (Around 2000 words) (35)
- a) Frustration, a barrier to the development of a country.
  - b) Quality education, a precondition for a country building.
-