

KHULNA UNIVERSITY OF ENGINEERING & TECHNOLOGY

Department of Mechanical Engineering

B. Sc. Engineering 1st Year Backlog Examination, 2022

Hum 1105

(English)

Time: 3 Hours

Total Marks: 210

N.B.: i) Answer any THREE questions from each section in separate scripts.

ii) Figures in the right margin indicate full marks.

iii) Assume reasonable data if any missing.

SECTION-A

- 1(a) Make sentence with the following structures using the words given in brackets. 14
- i. Subj. + Modifier + Intransitive Verb + Adv. of place. (work as verb)
 - ii. Subj. + Transitive Verb + Obj. (Write as verb)
 - iii. How + Subj. + Verb + Obj. + Verb + Adj. Complement. (Do and is as verb)
 - iv. Not only + Subj. + but also + Subj. + Verb + Adv. of place. (Succeed as verb)
 - v. Since + Subj. + Verb + Adj. Complement, Subj. + Verb + Adv. of place. (is and develop as verb)
 - vi. Though + Subj. + Verb + Adv. of manner, Subj. + Verb + Adv. of place. (Study and fail as verb)
 - vii. Subj. + Relative pronoun + Verb + Obj. + Verb + Adj. Complement. (Teach and is as verb)
- 1(b) Change the following words as asked in brackets and use the changed forms in sentence. 12
- Absurdity (into adj.); Earth (into adj.); Coherency (into adj.); Pretend (into noun); Mystification (into verb); Elevation (into verb).
- 1(c) Make new words with the following prefixes and suffixes and use the new words in sentences. 09
- Anti-----, Bi-----, -----ism, -----ian, -----y.
- 2(a) Transform the following sentences as per instruction. 14
- i. What you say inspires us certainly. (Simple)
 - ii. Liza is the most talented of all students in the class. (Positive)
 - iii. He made me leave the place. (Passive)
 - iv. No other mansion in the city is as large as this. (Superlative)
 - v. We read newspaper so that we may get information. (Compound)
 - vi. Nobody should pay heed to rumor. (Interrogative)
 - vii. Bangladesh is the most beautiful country in the world. (Comparative)
- 2(b) Rewrite the following sentences with the right form of verbs. 12
- i. Luna should have (lie) down on the coach.
 - ii. You can see him (do) his homework.
 - iii. He never (lend) his hand to the poor.
 - iv. His tears rose as he was (tear) between home and abroad.
 - v. Columbus (be) a destroyer of American native people.
 - vi. I could have (lie), but I decided not to.
- 2(c) Make sentences with the following idioms and phrases. 09
- Cat got your tongue, Caught between a rock and a hard place, Cold Turkey, Cross the bridge when you come to it, Curiosity killed the cat, Don't put all your egg in the one basket.
- 3(a) Express the following notions and functions. 09
- Greet someone, Welcome a group of people, Express joy, Ask for direction, Give suggestion, Express surprise
- 3(b) Make Wh question with the underlined words of the following: 14
- i. Shimu met me yesterday.
 - ii. She's five feet and six inches.
 - iii. Habib gave us two hundred taka.

- iv. The leg of the boy has gone lame.
 v. The length of the bay is 200 miles.
 vi. Monir has been studying in this varsity for five years.
 vii. Good deeds are eternal.
- 3(c) Make use of the following modals in sentences as asked in brackets. 12
 i. Could. (To express a past ability)
 ii. Must. (To express certainty)
 iii. Must + have + past participle of verb. (To express guess logically)
 iv. Should. (To express propriety)
 v. Should + have + past participle of verb. (To express a past action not discharged)
 vi. Would. (to express a past irregular habit)
- 4(a) Correct the following sentences. 14
 i. A love is a great element of feeling in man.
 ii. Girl in blue dress is very beautiful.
 iii. Outside as is raining it, let's not go out.
 iv. He has gone to Khulna, Jashore, Magura and others.
 v. Karim's is close to mine.
 vi. Our elder brother is a man of part.
 vii. Mobile is a wonderful discovery.
- 4(b) Complete the following sentences with clauses as asked in brackets. 12
 i. _____ enlightens our society. (Noun clause)
 ii. Sajib, _____, is talented in our class. (Adj.)
 iii. _____, we will cooperate you. (Adv. clause of time)
 iv. _____, we can't agree with you. (Adv. clause of condition)
 v. In _____, we have many things to learn. (Noun clause)
 vi. We are so gentle _____. (Adv. clause of result)
- 4(c) Make sentence using one antonym for each of the following. 09
 Down, Build, Try, Wake, Hide, Disposable

SECTION-B

- 5(a) "A principal fruit of friendship", Francis Bacon wrote in his timeless meditation on the subject, "is the ease and discharge of the fullness and swellings of the heart, which passions of all kinds do cause and induce." For Thoreau, friendship was one of life's great rewards. But in today's cultural landscape of muddled relationships scattered across various platforms for connecting, amidst constant debates about whether our Facebook "friendships" are making us more or less happy, it pays to consider what friendship actually is. That's precisely what CUNY philosophy professor Massimo Pigliucci explores in Answers for Aristotle: How Science and Philosophy Can Lead Us to A More Meaningful Life (public library), which also gave us this provocative read on the science of what we call 'intuition'.
- i. What did Bacon say about friendship? Do you agree or disagree? Justify your choice. 10
 ii. What is your definition of friendship? Exemplify. 10
- 5(b) Write a precis on the above mentioned passage. 15
- 6(a) Amplify the idea: No good deed ever goes wasted. 20
- 6(b) Prepare a CV along with a job application. 15
- 7(a) Write a paragraph on lawless mentality. 15
- 7(b) Write a report on "Hall dining facility of KUET". 20
- 8 Write a composition on: "Freedom of Speech: Right or Responsibility?" 35

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Department of Mechanical Engineering

B.Sc. Engineering 1st Year 1st Term Examination, 2022

ME 1107

(Manufacturing Process)

Time: 3 Hours

Total Marks: 210

- N.B.:** i) Answer any THREE questions from each section in separate scripts.
ii) Figures in the right margin indicate full marks.
iii) Assume reasonable data if any missing.

SECTION – A

- 1(a) Define casting. What are the advantages and disadvantages of casting? 10
- 1(b) What is a core? Describe the essential properties of a good core. 10
- 1(c) Explain shrinkage allowance and draft allowance with the help of appropriate sketches. 10
- 1(d) Write down the differences between removable and disposal pattern. 05
- 2(a) Define die casting. Illustrate and explain the “Goose Neck” type hot chamber die casting by comparing direct air pressure and submerged plunger pressure technique. 10
- 2(b) Which investment casting process is to be considered for manufacturing of gold jewellery and surgical equipment? Also mention the necessities for using shell molding casting. 07
- 2(c) “S.” Co. Ltd. produces 10,000 motorcycle rim in a day. Which centrifugal casting process would they choose to manufacture the motorcycle rim? Justify your answer. 08
- 2(d) Illustrate and explain the rod manufacturing horizontal type continuous casting process. How does reciprocating type differ from horizontal type continuous casting process? 10
- 3(a) Interpret different types of welding flames produced during oxy-acetylene gas welding with sketches. Also, how does oxy-acetylene flame use for cutting the metal instead of welding? 10
- 3(b) Compare and contrast TIG and MIG welding processes. Explain the resistance projection welding with neat sketch. 07
- 3(c) Illustrate and explain the process of electron beam welding (EBM) with mentioning its limitations. 08
- 3(d) How does soldering differ from brazing? Explain the procedure for coating the ceiling fan blades or vanes using the plasma arc technique for metal spraying. 10
- 4(a) Define the following operations: (i) Blanking, (ii) Lancing, and (iii) Coining. 06
- 4(b) Describe how a toothpaste tube can be manufactured. 10
- 4(c) What is forging? Classify forging processes. 12
- 4(d) Write down the significance of recrystallization temperature in metal forming process. 07

SECTION – B

- 5(a) Draw a single point cutting tool and show its different angles and elements. 10
- 5(b) Explain metal cutting mechanism with neat sketches. 10
- 5(c) What should be the properties of cutting fluid? Write down the factors upon which tool life depends. 10
- 5(d) Distinguish between orthogonal cutting and oblique cutting. 05
- 6(a) “A lathe machine is said to be universal machine”- justify your answer. “ABC” workshop produces one thousand nut-bolts per day. Which operations they are to be sequentially considered to manufacture the hexagonal nut-bolt arrangement? 10
- 6(b) Compare and contrast between: (i) tap and die in term of thread cutting, (ii) drilling and boring operations. 06
- 6(c) Interpret the various indexing methods and explain any one of them with proper example. 10
- 6(d) How does a turret lathe differ from an engine lathe? Explain the principle of centerless grinding. 09
- 7(a) Why universal milling machine is named as universal? Describe the lever rocker arm quick return mechanism for shaper machine. 08
- 7(b) Differentiate between conventional milling and climb milling. 08
- 7(c) Write down the advantages and limitations of centerless grinding. 09
- 7(d) How screw threads and gears are manufactured? List eight operations that can be performed in a lathe machine. 10
- 8(a) Why modern machining processes have been developed? Derive an expression for MRR in ECM process. 10
- 8(b) What is dielectric fluid? Explain the EDM process by mentioning the functions of dielectric fluid of EDM. 10
- 8(c) Write the short notes on LBM and PAM. 06
- 8(d) Illustrate and explain the working procedure of USM by mentioning its advantages and disadvantages. 09