Week 3 Assignment 3

The due date for submitting this assignment has passed. Due on 2017-08-19, 23:59 IST.

Submitted assignment

1) On the gear shaping machine, if only SPEED GEAR BOX setting is changed

- Option (a): Cutting speed changes but number of strokes per minute does not change
- Option (b): Number of strokes per minute changes but cutting speed does not change
- Option (c): The length of stroke definitely changes
- Option (d): None of the others

No, the answer is incorrect.
Score: 0
Accepted Answers:
Option (d) : None of the others

2) A machine operator cuts a 3 module 45 teeth straight spur gear on a Fellow's gear shaper. Next, he has to cut a 3 module 40 teeth straight tooth spur gear on the same machine. For this, he has to necessarily change the setting of

- Option (a): The speed gear box
- Option (b): The Index gear box
- Option (c): The feed gear box
- Option (d): None of the others

No, the answer is incorrect.
Score: 0
Accepted Answers:
Option (b) : The Index gear box

3) In the schematic of a fellow's gear shaper (Fig. 1), the gear boxes \( U_v \) (speed gear box), \( U_i \) (index gear box) and \( U_s \) (feed gear box) should have the following locations respectively

- Option (a): The speed gear box
- Option (b): The Index gear box
- Option (c): The feed gear box
- Option (d): None of the others
4) In gear shaping, the rpm of the cutter will be affected by change in
- Option (a): Speed gear box gear ratio
- Option (b): Index Gear box gear ratio
- Option (c): Length of stroke
- Option (d): None of the others

No, the answer is incorrect.
Score: 0
Accepted Answers:
Option (a): Speed gear box gear ratio

5) In gear shaping, while cutting a 50 teeth straight tooth spur gear, a cutter of 30 teeth gets broken and has to be replaced by a 40 teeth cutter of same module. In that case, in order cut the same gear with same speed and feed
- Option (a): Speed gear box and feed gear box ratios both have to be essentially changed
- Option (b): Speed gear box and index gear box ratios both have to be essentially changed
- Option (c): Index gear box and feed gear box ratios both have to be essentially changed
- Option (d): None of the others

No, the answer is incorrect.
Score: 0
Accepted Answers:
Option (a): Speed gear box and feed gear box ratios both have to be essentially changed

6) A machine operator has cut a 2 module 34 teeth straight tooth spur gear on a gear shaping machine and now, he has to cut a 2 module 136 teeth straight tooth spur gear on the same machine. If he changes only the ratio of the index gear box $U_i$ and puts in a blank of outside diameter φ 276 mm for that purpose
- Option (a): The tangential speeds on the pitch circles of the cutter and new blank would not be equal
- Option (b): The pitch circumferential feed per stroke will change
- Option (c): None of the others

No, the answer is incorrect.
Score: 0
Accepted Answers:
Option (a): The tangential speeds on the pitch circles of the cutter and new blank would not be equal
7) A machine operator has cut a 2 module 34 teeth straight tooth spur gear on a gear shaping machine and he has to cut a 3 module 34 teeth straight tooth spur gear now on the same machine at same speed and feed. In that case

- Option (a): Nothing needs to be changed, only a blank of outside diameter φ 108 mm has to be used
- Option (b): Blank and cutter both need to be changed
- Option (c): Only cutter and not blank needs to be changed
- Option (d): None of the others

No, the answer is incorrect.
Score: 0
Accepted Answers:
Option (b): Blank and cutter both need to be changed

8) For producing a straight tooth spur gear, Fellow's gear shaper machine requires that

- Option (a): Only work piece rotate
- Option (b): Only cutter rotate
- Option (c): Both cutter and workpiece rotate
- Option (d): None of the others

No, the answer is incorrect.
Score: 0
Accepted Answers:
Option (c): Both cutter and workpiece rotate

9) In a gear shaper, in order to extend the cut all around the circumference of a straight tooth spur gear blank

- Option (a): Simple indexing with universal dividing head is absolutely necessary
- Option (b): Differential indexing with universal dividing head is absolutely necessary
- Option (c): Cutter and work piece are made to rotate against each other
- Option (d): None of the others

No, the answer is incorrect.
Score: 0
Accepted Answers:
Option (c): Cutter and work piece are made to rotate against each other

10) The kinematic chain of mechanism is shown (Fig. 2) for realization of reciprocation in a gear shaper. The block B at the bottom develops reciprocatory motion which is given to the cutter. \( N_o \) and \( N_i \) mean output rpm and
Here it can be stated that

Option (a): The length of stroke will increase with increase in motor rpm
Option (b): The block B develops 64 strokes per min
Option (c): Change only in Speed gear box ratio changes both number of strokes per min and feed (mm/stroke)
Option (d): None of the others

No, the answer is incorrect.
Score: 0
Accepted Answers:
Option (d): None of the others