Marks scored:

KATHMANDU UNIVERSITY
End Semester Examination
February/March, 2019

Level : B. E.
Year : IV

Course : MEPP 429
Semester : I

Exam Roll No. :

Time: 30 mins.

F. M. : 10

Registration No.:

Date 05 MAR 2019

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Choose or provide the most appropraite answer.

1. In the following geometric modelling techniques which are not three-dimensional modelling?
   a) Wireframe modeling
   b) Drafting
   c) Surface modeling
   d) Solid modelling

2. While creating an assembly, the newly added component has ___ degrees of freedom.
   a) 4 b) 3 c) 6 d) 5

3. Primary objective of setting a working directory is to_____.
   a) arrange work
   b) save all the works in designated folder
   c) open the files quickly
   d) rename files

4. Name four geometric constraints available in Creo.
   a) _____ b) _____ c) _____ d) _____

5. While using features such as extrude and revolve, Unclosed sketching results in _____
   a) solid model
   b) sheet metal model
   c) surface model
   d) assembly model

6. BOM stands for
   a) Book of materials
   b) Bill of materials
   c) Block of model
   d) Bunch of materials

7. In CREO, sweep is a type of extrusion where sketched is extruded _____ to the sketching plane.
   a) perpendicular b) parallel c) tangent d) offset

8. Directional pattern is a way to use pattern feature. Name other four ways to use pattern feature.
   a) _____
   b) _____
   c) _____
   d) _____

9. While introducing relations into the model, P# and D# are used what do P and D stand for?
P:

D:

10. Which one of the following is not a valid option for sketching a circle in Creo?
a) center and point b) concentric c) 3-point d) tangent and center

11. What does the shell feature do?
a) provide thickness to a solid
b) hollow out inside of a solid
c) creates rib in the model
d) creates shell pattern

12. CAD/CAM is the relationship between
a) science and engineering
b) manufacturing and marketing
c) design and manufacturing
d) design and marketing

13. What happens when two concentric circles are extruded?
a) creates a cylinder
b) creates a hollow cylinder
c) creates sphere
d) creates ellipse

14. Revolving a half-circle creates _____.
a) cylinder b) sphere c) ellipse d) circle

15. What does CTRL+G command do?
a) saves the model
b) opens the model
c) regenerates the model
d) closes the modeling window

16. Drawings in Creo are saved in which of the following format?
a) .drw b) .ptr c) .prt d) .stl

17. Which of the following file format can be read by all CAD software?
a) . drw b) .frm c) .stl d) .STEP

18. Which command is used to divide line into segments having predefined length?
a) Divide b) Chamfer c) Trim d) Measure

19. To create a BOM we need
a) detailed view b) exploded view c) section view d) default view

20. Suppressing a feature means _____.
a) deleting a feature
b) hiding and deleting feature
c) hiding but not deleting a feature
d) disabling a feature

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Time : 2 hrs. 30 mins.

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F. M. : 40

SECTION "B"

Attempt *ALL* questions. Assume any missing data with proper reasoning.

1. What is Computer Aided Design? Discuss its advantage over traditional design methods and mention its field of application. [2+2]
2. Explain design process using flow chart and precisely point out the use of CAD/CAM in the process. [2+2]
3. Explain the difference between sequential and concurrent engineering. [2]
4. Explain the relation between CAD and CAM. What advantages does CAM have in modern manufacturing? [2+2]
5. Differentiate between top-up design and bottom-up design. [2]
6. What are different methods used to create models? Briefly describe each of them. [3]
7. Write short notes on following. [4]
   a) Geometric constraints
   b) Relation
   c) Bill of Materials
   d) NURBS
8. Discuss when surface modeling is preferred over solid modeling. [2]
9. Define parametric modeling. What is family table and why is it needed? [1+2]
10. Define pattern. Briefly explain any four methods of patterning in CREO? [2]
11. A 3D design of a Flange is given below. Explain the process of modeling it using Creo. Mention all the features used to create the model. Assume all needed dimensions and draw necessary sketches (e.g if you are using extrude feature draw the sketch that will be extruded). [10]