University of Mumbai

Online Examination 2020
Program: BE Mechanical Engineering
Curriculum Scheme: Revised 2016

Examination: Final Year Semester VII
Course Code: MEC701
Course Name: Machine Design - II

Time: 1 hour   Max. Marks: 50

Q   Note to the students:- All Questions are compulsory and carry equal marks .
A   slip takes place
B   velocity ratio remains constant
C   velocity ratio not remains constant
D   it has compact construction

Q   in case of helical gear if helix angle is 17 Deg and number of teeth on pinion are 20 then determine virtual
        number of teeth
A   27.7867
B   20.8686
C   16.6748
D   35.7839

Q   which material is preferred for for worm gear
A   alloy steel
B   phosper bronze

C	plane carbon steel
D	chromium

Q	By providing one hunting tooth on gear, results in
A	improves power transmitting capacity
B	uneven distribution of wear
C	even distribution of wear
D	uniform distribution of load along gear face width

Q	In a gear having involute teeth, the normal to the involute is a tangent to the to the --
A	pitch circle
B	base circle
C	addendum circle
D	dedendum circle
Q	The optimum range of face width is ---
A	less than 8 times module
B	equal to 8 times module
C	greater than 8 times module and less than 12 times module
D	greater than 12 times module

Q	Ratio of diametral pitch and module is
A	circular pitch
B	1
C	0.5
D	number of teeth

Q	which type of gear doesn't impart axial force
A	helical gear
B	spur gear

C	worm and worm wheel
D	bevel gear

Q	what is rpm of bearing If ife of bearing in millions of revolutions=100 , Life in hours=30000hrs
A	55.55
B	560
C	5600
D	5.6

Q	which bearing can carry small missalignment
A	spherical roller bearing
B	taper roller bearing
C	needle roller bearing
D	DGBB

Q	out of list given which bearing has highest outer diameter
A	SKF 6016
B	SKF 6216
C	SKF 6416
D	SKF 6316

Q	if L/D ratio is one, diameter of shaft is 120 mm, radial load is 20 KN then bearing pressure generated is
A	1.5 N/mm2
B	1.8833 N/mm2
C	1.3888 N/mm2
D	2.5676 N/mm2
Q	In hydrostatic bearings
A	The Oil film pressure is generated only by the rotation of the journal

B   The oil film is maintained by supplying oil under pressure

C   Do not require external supply of lubricant

D   Grease is used for lubrication

Q   Out of the list which can not be used as Hydrodynamic bearing material

A   Babbit

B   Bronze

C   Hardened Steel

D   Alluminium

Q   In case of cam and follower mechanism increase in pressure angle results in

A   increase in lifting force of follower

B   increase in spring stiffness

C   increase in perpandicular component to lifting force

D   decrease in spring stiffness

                in case of cam and follower mechanism if base circle diameter is 80 mm and prime circle dimeter is 100 mm then

Q   diameter of roller of follower is

A   10 mm

B   20 mm

C   30 mm

D   40 mm

Q   In case of Open belt drive if $\sin(\alpha) = (r_2 - r_1)/x$ where x is central distance then angle of lap on driving pulley is

A $(180 - \alpha)$ Deg

B $(180 - 2\alpha)$ Deg

C	(180 + α) Deg
D	(180 + 2α) Deg

Q	In case of belt drive tension in tight side is maintained at 4500 N and at slack side 3200 N .Power transmission capacity is 2080 watts then what should be peripheral velocity of drive
A	1.6 m/sec
B	2 m/sec
C	1.8 m/sec
D	2.2 m/sec
Q	Flywheel is used in
A	Punching press
B	drill machine
C	milling machine
D	Hand Grinder

Q	In case of flywheel The ratio of maximum fluctuation of energy to the workdone per cycle is called
A	coefficient of fluctuation of Energy
B	coefficient of fluctuation of speed
C	energy ratio
D	velocity ratio

Q	As per practical limitations number of teeth on output sprockets are
A	taken greater than 150
B	Limited to 120
C	limited to 50
D	limited to 500

Q	With the increase in number of teeth Chodral speed variation is
A	Increased
B	remains same

C   Decreased

D   becomes zero

Q   If there are 7 clutch plates in a multiplate cluth, what is the number of pair of contact surface?

A   5

B   4

C   6

D   8

Q   which type of shaft is used in clutches

A   Regular shaft with key

B   Splined shaft

C   hollow shaft

D   shaft with taper end

Q   in small automobiles which type of break is implemented

A   Drum break

B   shoe break

C   band break

D   electrical break