S No. 8011 Roll No.

B.TECH (CE/CSE/ME)-3rd SEM/ MCA-1st SEM EXAMINATION; NOV./DEC.-2016
(SUBJECT:- PSYCHOLOGY ; PAPER CODE-13010302/13020303/13030303/13050105)
COMMON PAPER FOR B.TECH & MCA

Time: 03 Hours **Max. Marks: 50**

Instruction:
1. Write your Roll No. on the Question paper.
2. Candidate should ensure that they have been provided with the correct question paper. Complaints in this regard, if any, should be made within 15 minutes of the commencement of the exam. no complaint(s) will be entertained thereafter;
3. Attempt five (05) questions in all and Q. No. 1 is compulsory. Students are required to attempt four questions from Q.No. 2 to 6.
4. Draw Diagram wherever required.

Q.1 Explain the following: (10x1=10)

a) Define learning.
b) What is perception?
c) What do you understand by term 'self-development'?
d) Explain delinquent behaviour.
e) Explain accommodation.
f) Define Terrorism.
g) What is prejudice?
h) Explain the concept of westernization.
i) What is social mobility?
j) Define creativity.

Q.2 a) Describe psychology as a science. Explain the scope of psychology. (5)
b) Define personality. Explain the types of personality. (5)

Q.3 a) What is Stress management? Discuss one technique of stress management. (5)
b) Describe concept of Well-being. How it can be improve? (5)

Q.4 a) Define sociology. Discuss importance of understanding social behaviour. (5)
b) Discuss co-operation. Describes causes of conflict. (5)

Q.5 a) Describe nature and types of social stratification. (5)
b) Define urbanization. Discuss effect of urbanization on Indian society. (5)

Q.6 a) Write a detail note on Child Abuse. (5)
b) Write a detail note on social disorganization. (5)

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Sr. No. 8012 Roll No_____

B.TECH (CE/CSE/ME) – 3RD SEMESTER EXAMINATIONS; NOV./DEC.- 2016

(SUB.: FOREIGN LANGUAGE GERMAN-I : PAPER CODE: 13010303/13020304/13030313)

TIME: 03:00 Hrs. **Max. Marks: 50**

Instructions:-

1. Write your Roll no. on the Question paper.
2. Candidate should ensure that they have been provided with the correct question paper. Complaints in this regards, If any, should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter.
3. Attempt all questions. Part of a question should be attempted in sequence order. Marks are indicated against each question.
4. Draw Diagram wherever required.

Q.1. Write down the forms of conjugation (ie., ich , du, er/es/ sie , Sie , wir and Ihr) of the following verbs (any Five) . (10)

(a) sagen	(b) machen	(c) gehen	(d) nehmen
(c) arbeiten	(f) sehen	(g) trinken	(h) bringen

Q.2. Fill in the blanks (any Ten) using the verbs given in the braces: (10)

(a) cr _____ in Dclhi ?	(wohncn)
(b) Was_____ Sie ?	(essen)
(c) Was _____ er ?	(machen)
(d) Ich _____ Deutsch ?	(lernen)
(e) Was_____ Ihr Name ?	(sein)
(f) Bitte _____ Si e mir ein Buch .	(geben)
(g) Wie _____ das wetter ?	(sein)
(h) Wieviel _____ es ?	(kosten)
(i) Was _____du?	(sagen)
(j) _____ sind Marie und Mark ?	(wo/ wer / wie)
(k) Kommst _____ aus Amerika ?	(Sie/du/er)
(l) Wir _____ nach Hause ?	(gehen)

Q.3 Write down the plural forms of the following words (ANY TEN): (10)

(a) Blume	(b) Vater	(c) Spiegel	(d) Buch
(e) Baum	(f) Mutter	(g) Junge	(h) Haus
(i) Auto	(j) Mädchen	(k) Apfel	(l) Sohn

Q.4 Translate the following sentences from English to German: (10)

(a) My name is Robin.
(b) I am going to Germany.
(c) Where do you live?
(d) Good Morning
(e) I am a student.
(f) I speak German.
(g) Good Night
(h) What is your name?
(i) I see a Dog.
(j) You are a Boy.

P.T.O.

Q.5 Answers the following questions: (05) ~~(10)~~

(a) Wie ist Ihr name ?
(b) Wer ist hier ?
(c) Wo wohnen Sie ?
(d) Wie ist das Wetter ?
(e) Wo sind Marie und Mark?

Q.6 Write down in German (counting). (05) ~~(10)~~

(a) 1	(f) 6
(b) 2	(g) 7
(c) 3	(h) 8
(d) 4	(i) 9
(e) 5	(j) 10

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S No. 8013 Roll No._____

B.TECH (CE/ME)-3rd SEMESTER EXAMINATION; NOV./DEC.-2016
(SUBJECT:-COMPLEX ANALYSIS AND PROGRAMMING PAPER CODE-1301305/13030302)

Time: 03 Hours **Max. Marks: 50**

Instruction:
1. Write your Roll No. on the Question paper.
2. Candidate should ensure that they have been provided with the correct question paper. Complaints in this regard, if any, should be made within 15 minutes of the commencement of the exam. no complaint(s) will be entertained thereafter;
3. Attempt five (05) questions in all and Q. No. 1 is compulsory. Students are required to attempt four questions selection one from each unit in addition to Q. No.-1. Marks are indicated against each question.
4. Draw Diagram wherever required.

Q.1 Explain the following: (5x2=10)

a) Solve the linear programming problem graphically.

Maximize $Z = 2x + 3y$

Subject to the Constraints

$x+2y \leq 10$

$2x+y \leq 14$

$x,y \geq 0$

b) Separate into real and imaginary parts Log (2+i).

c) Define Analytic function.

d) Define properties of Normal distribution.

e) State Cauchy – Goursat theorem & write their application.

UNIT - I

Q.2 Using Simplex Method solves the given L.P.P. (10)

Maximize : $z=2x + 5y$

Subject to the constraints

$x+4y \leq 24$

$3x+y \leq 21$

$x+y \leq 9$

$x,y \geq 0$

Or

Q.3 Using Dual Simplex Method Solve the given L.P.P. (10)

Maximize : $z=-3x_1-x_2$

Subject to the constraints

$x_1+x_2 \geq 1$

$2x_1+3x_2 \geq 2$

$x,y \geq 0$

P.T.O.

UNIT - II

Q.4 a) Prove that the function sinhz is analytic and find its derivative. (6)

b) Determine the analytic function whose real part is e^{2x}(xcos2y-ysin2y). (4)

Or

Q.5 a) Show that f(z)=xy+iy is everywhere continuous but not analytic. (6)

b) Determine the analytic function w=u+iv, if v=log (x^2+y^2)+ x-2y (4)

UNIT - III

Q.6 a) Expand $\frac{1}{z2-3z+2}$ in the region 1z1<1. (6)

b) State Taylor's and Laurent's series. (4)

Or

Q.7 a) Find the sum of residues of the function f (z) = $\frac{sinz}{zcosz}$ (6)
at its pole inside the circle 1z1=2.

b) How to detect singular points. (4)

UNIT - IV

Q.8 a) A coin was tossed 400 times and the Head turned up 216 times.
Test the hypothesis that the coin is unbiased. (6)

b) Define level of significance. (4)

Or

Q.9 a) From the given table regarding the colour of Eye's of father and sons.
Test if the colour of Son eye's is associated with that of the father (chi square test)
Tabulate value of chi square at 5% level of significant at 1 d.f. is 3.841. (6)

Eye colour of son

Eye colour of Father	Light	Not Light
Light	471	51
Not Light	148	230

b) A bag X contains 5 white and 4 red balls and a bag Y contains 3 white and 2 red balls. One ball is drawn at random from one of the bag and it is found to be red. Find the probability that it was drawn from bag x. (4)

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Sr. No:8014 Roll No:_____

B.TECH. (CE)-3rd SEMESTER EXAMINATION, NOV./DEC.-2016
(SUBJECT-STRENGTH OF MATERIAL; PAPER CODE – 13010306)

Time: 3 Hours **Maximum Marks-50**

Instruction:

1. Write your Roll No. on the question paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencements of the Exam. No complaints will be entertained thereafter.
3. Attempt five (5) questions in all and Question No. 1 is compulsory. Students are required to attempt four questions selection one from each unit in addition to Q.No.1 Marks are indicated against each.
4. Draw diagram wherever required.

Q1. (a) What is Slenderness Ratio & Poisson's Ratio?
(b) What will be the maximum bending moment for Cantilever beam having uniformly distributed load over the length of the beam?
(c) Write Euler theory end condition and buckling load.
(d) Calculate the Young modulus of elasticity if load of 40KN is applied on a hollow bar of length 9 m having external and internal diameters 50 mm and 26 mm respectively and there is 4.5 mm extension in the bar. **(10)**

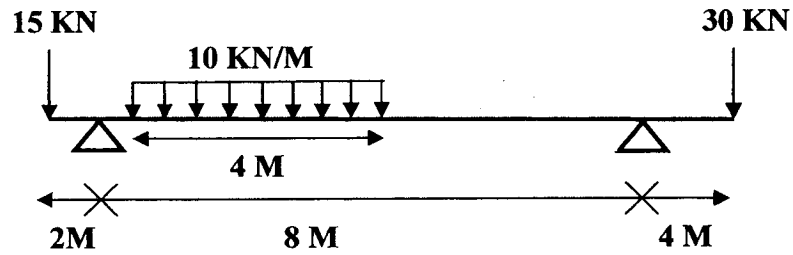
UNIT-I

Q2. (a) Calcuate the power transmitted by a shaft of 60 mm diameter and allowable stress of 75 N/mn^2 if shaft will rotate at 70 r.p.m. **(6)**

(b) A bar of 40 mm diameter is subjected to a pull of 100 KN, the measured extension is .08 mm and change in diameter is 0.00043 mm. Calculate Poisson's ratio and young modulus of elasticity. **(4)**

OR

Q3. Draw Shear Force Diagram and Bending Moment Diagram for the given beam. **(10)**



UNIT-II

Q4. If you two wooden block of 150mm x 50mm are placed as T-Section then calculate the stress over the section if a moment of 3.4 KN-m is applied on the section. **(10)**

OR

Q5. Derive an expression for the bending of beams? **(10)**

PTO

UNIT-III

Q6. Draw influence line diagram for shear force and bending moment at a section 6m from left hand side support of simply supported beam 15 m long. Hence calculate Maximum S.F and B.M for the uniformly distributed load of 50 KN/m over 5m from right hand side support. **(10)**

OR

Q7. Write Castigaliano 1st and 2nd theorem & derive the expression. **(10)**

UNIT-IV

Q8. If a load of 80 KN is applied on a hollow bar of length 6m with external & internal diameter 60 mm and 35 mm respectively. There is expansion of .248 mm then calculate buckling load if bar is used with one end hinged and other is fixed. **(10)**

OR

Q9. (a) Derive the expression for the buckling load of column with one end of column is fixed and other end is hinged. **(8)**

(b) Write Secant formula for the above case. **(2)**

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Sr. No:8015 Roll No:_____

B.TECH. (CE)-3rd SEMESTER EXAMINATION, NOV./DEC.-2016
(SUBJECT-SURVEYING; PAPER CODE – 13010307)

Time: 3 Hours **Maximum Marks-50**

Instruction:

1. Write your Roll No. on the question paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencements of the Exam. No complaints will be entertained thereafter.
3. Attempt five (5) questions in all and Question No. 1 is compulsory. Students are required to attempt four questions selection one from each unit in addition to Q.No.1 Marks are indicated against each question.
4. Draw diagram wherever required.

Q1. Write short notes on: **(5x2=10)**

(a) Surveying and Leveling
(b) Measuring tape, Ranging rod & Plumb Bob.
(c) Correction for refraction and curvature.
(d) Transit curve.
(e) Geodetic surveying.

UNIT-I

Q2. (a) What do you understand by chain surveying? Explain any one method of recording Chain survey data in the field book. **(4)**

(b) Following bearings were observed while traversing with a compass. **(6)**

Line	F.B.	B.B.	Line	F.B.	B.B.
AB	45° 45′	226° 10′	CD	29° 45′	209° 10′
BC	96° 55′	277° 5′	DE	324° 48′	144° 48′

Mention which stations were affected by local attraction and determine the corrected bearings.

OR

Q3. (a) What do you understand by Electronic Distance Measurement (EDM)? **(4)**

(b) The following bearings were observed with a compass. Calculate **(6)**

Calculate the interior angles.

Lines	Fore Bearing
AB	60° 30′
BC	122° 00′
CD	46° 00′
DE	205° 30′
EA	300° 00′

Check the results with theoretical sum of interior angles.

PTO

UNIT-II

Q4. (a) Reconstruct the field book with following Data. **(7)**

Stn.	BS	IS	FS	Rise	Fall	RL	Remark
1	2.285					232.460	BM 1
2	1.650		x	0.020			
3		2.105			x		
4	x		1.960	x			
5	2.050		1.925		0.300		
6		x		x		232.255	BM2
7	1.690		x	0.340			
8	2.865		2.100		x		
9			x	x		233.425	BM3

Check the correctness of the results.

(b) With the help of a sketch, explain Level line, Horizontal line, Plumb line and Mean Sea level. **(3)**

OR

Q5. (a) What do you understand by contours and why are they provided on Maps? **(3)**

(b) Find the average elevation of point P by observation from two adjacent stations **(7)**
A & B (aligned in same vertical plain with that of staff station) of a tachometric survey. The staff was held vertically upon the point. The instrument is fixed with analectic lens, the multiplication constant of instrument is 100.

Inst. Station	Height of Axis (M)	Staff Point	Vertical angle	Staff reading			Elevation of station (M)
				Bottom (M)	Centre (M)	Top (M)	
A	1.420	P	$+2^\circ\ 24'$	1.320	2.055	2.880	77.750
B	1.400	P	$-3^\circ\ 36'$	0.785	1.800	2.815	97.135

UNIT-III

Q6. (a) Write a technical essay on Global Positioning System (GPS). **(5)**

(b) A railway embankment is 10m wide side slopes 1½ : 1. Assume the ground to be level in the direction traverse to the centre line. Calculate the volume contained in the length of 120m. The centre height at 20m intervals being in meters 2.2, 3.7, 3.8, 4.0, 3.8, 2.8, 2.5. **(5)**

OR

Q7. (a) What do you understand by super elevation, equilibrium cant and cant deficiency and centrifugal ratio? **(5)**

(b) Explain elements of simple curve with the help of sketch and their formulae. **(5)**

UNIT-IV

Q8. (a) What do you understand by Axis Signal correction? **(3)**

(b) Derive expressions for the Axis Signal correction for angle of depression and elevation. **(7)**

OR

Q9. (a) What do you understand by triangulation figure? Discuss the criteria for the selection of a triangulation figure. **(4)**

(b) Two triangulation stations A and B are 60 kilo meters apart and have elevation 240 metre 280 m respectively. Find the minimum height of the signal required at B so that the line of sight may not pass near the ground than 2 meters.
The intervening ground may be assumed to have an average elevation of 200 meters. **(6)**

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Sr. No:8016 Roll No:_____

B.TECH. (CE)-3rd SEMESTER EXAMINATION, NOV./DEC.-2016
(SUBJECT-FLUID MECHANICS: PAPER CODE – 13010308)

Time: 3 Hours **Maximum Marks-50**

Instruction:

1. Write your Roll No. on the question paper.
2. Candidate should ensure that they have been provided with correct question paper. Complaint(s) in this regard, if any, should be made within 15 minutes of the commencements of the Exam. No complaints will be entertained thereafter.
3. Attempt five (5) questions in all and Question No. 1 is compulsory. Students are required to attempt four questions selection one from each unit in addition to Q.No.1 Marks are indicated against each question.
4. Draw diagram wherever required.

Q1. Explain followings: **(5x2=10)**

(a) Specific weight
(b) Capillarity
(c) Surface tension
(d) Pressure
(e) Boundary layer flow

UNIT-I

Q2. Determine the viscosity of a liquid having kinematics viscosity 6 stokes and specific gravity 1.9. **(10)**

OR

Q3. The pressure outside the droplet of water diameter 0.04 mm is 10.32 N/m^2 (at atmospheric pressure). Calculate the pressure within droplet if surfaces tension is given as 0.0725 N/m of water. **(10)**

UNIT-II

Q4. State and prove velocity potential line and stream line. **(10)**

OR

Q5. Define following - **(10)**

(a) uniform and non uniform flow
(b) 1-D flows and 2-D flows.

UNIT-III

Q6. What is a pitot-tube? How will you determine the velocity at any point with the help of Pitot tube? Also explain the Bernoulli's theorem. **(10)**

OR

Q7. Apipe, through which water is flowing is having diameter 40cm and 20cm at the cross-section 1 and 2 respectively. The velocity of water at section 1 given 5.0 m/s. Find the velocity head at the section 1 and 2 and also rate of discharge. **(10)**

UNIT-IV

Q8. Define the terms dimensional analysis and model analysis, also describe fundamental units. **(10)**

OR

Q9. Find an expression for the drag force on smooth sphere of diameter D moving with a uniform velocity V in a fluid of density ρ and dynamic viscosity μ. **(10)**

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S No. 8017 Roll No.

B.TECH (CE)-3rd SEMESTER EXAMINATION; NOV./DEC.-2016
(SUBJECT:- BUILDING CONSTRUCTION AND MATERIAL PAPER CODE-13010309)

Time: 03 Hours **Max. Marks: 50**

Instruction:

1. Write your Roll No. on the Question paper.
2. Candidate should ensure that they have been provided with the correct question paper. Complaints in this regard, if any, should be made within 15 minutes of the commencement of the exam. No complaint(s) will be entertained thereafter;
3. Attempt five (05) questions in all and Q. No. 1 is compulsory. Students are required to attempt four questions selection one from each unit in addition to Q. No.-1. Marks are indicated against each question.
4. Draw Diagram wherever required.

Q.1 Explain the following: (10)

a) Quarrying of stone
b) Granite
c) Hollow brick
d) Kiln
e) Endogenous Trees
f) Lime Mortar
g) Ridge
h) Half bat
i) Echos
j) Lath

UNIT – I

Q.2 Explain the method of quarrying by blasting with neat sketch of tool used. (10)

Or

Q.3 What is meant by seasoning of timber? Write a note on natural seasoning. (10)

UNIT – II

Q.4 Write short note on following : (5x2=10)

a) GI Sheets
b) Terracotta

Or

Q.5 Explain different types of Ashlar masonry. (10)

UNIT – III

Q.6 Why is cement concrete flooring becoming popular? Explain the construction of such floors. (10)

P.T.O.

Or

Q.7 What is meant by fire-resisting construction? How does the Indian National Building Code classify building according the fire resistance? (10)

UNIT – IV

Q.8 Differentiate between damp-proofing and waterproofing. Also state the principle of waterproofing. (10)

Or

Q.9. How to do the assessment of crack pattern in a structure? What are different method of repairing and restoration? (10)

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