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## PERSPECTIVE OF DIPLOMA IN ENGINEERING COURSES VIS-A-VIS SIMPLE GRADUATION WITHIN U.P. PROVINCE - A CASE STUDY 2020

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**MANOJ KUMAR VARSHANEY**

Sr. Lecturer, HOD Civil Engineering  
D.N. Polytechnic, Meerut

**ARPIT KUMAR VARSHNEY**

MBA Scholar  
Swami Vivekanand Subharti University  
Meerut (U.P.)

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### ABSTRACT

*The case study as titled, demonstrates the differentiation between engineering diploma versus simple graduation and promotes the diploma at par with simple graduation on various comparative favourable points like state level entrance exam, syllabus, numerous subjects, Mark's distribution, fee structure, job opportunities, prospectives in seeking higher education, job descriptions and state level or regional governance of examination body etc. Besides this knowledge, skills, market value and time deputed to the work have been added virtually, to publicize the value of diploma more than the simple graduation.*

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### 1. INTRODUCTION

In existing scenario, higher or technical education is achieved after completing the educational qualification up-to 10 or 10 plus 2. Though there are also some professional, medical and engineering courses, opted by aspirants in the form of Chartered Accountant/ Company Secretary/ICWA/LLB/MBBS/BDS/BE/ B.TECH, where high standard competitions are organized by various bodies and after the difficult competitive exam, students get admitted in first choice institute like Institute of Chartered Accountants of India/Institute of Company Secretary of India/UNIVERSITIES/All India Institute of Medical Sciences /Indian Institute of Technology/ Indian Institute of Information

Technology /Indian Institute of Science and reputed institutions. Besides above there are some courses like B. Business Administration, B. Computer Application, Integrated Legislature Law B, Integrated B. Education, B. Journalism, B. Design, B. Fine Arts and B. Pharma etc. for which some governing bodies organizes the competitions for their own campus admission or direct by their own set up criteria.

Now-a-days the crowd even has become too much to get education and all are not absorbed in above courses, hence the aspirants tend to move towards simple graduation or diploma courses offered on formal or informal mode of education. As simple graduation or diploma in engineering courses are of three-year duration

and basic entry level is intermediate and high school respectively and usually certificated respectively by Universities or State Board. For doing simple graduation intermediate in Science / Humanities /Commerce are required from State Board/Central Board of Secondary Education/Indian Certificate of School Education while for diploma only minimum qualification exists with high school but most of students are come from intermediate science group. A system of lateral entry in diploma courses have been existing and admission occurs in second year of three-year diploma course by the entrance exam of other group where qualification is mandatory as intermediate or ITI in respective trade.

As for simple graduation direct admission to the institute exist by the state level university concluding as zonal university like CCSU-Meerut, Lucknow University, Kanpur University, RohilKhand University Bareilly, Allahabad University and many more, as they have limited coverage of students in limited districts as seen usually. A student residing the zone opts for respective college falls under the zonal university. Like Lucknow residing student will not go to attend colleges under Bareilly University or Meerut University usually, but exemptions are there always. But in diploma in engineering courses there remain a state level entrance exam conducted by Joint Entrance Examination Council U.P. Lucknow, where students are not required to qualify the exam but to compete others and come onto merit so that through counseling admission could be possible and student gets admission to other district polytechnic, which may be far or close to his domicile district depending on his/her merit.

Hence the admission to technical institutes is comparatively competitive than admission in colleges for simple graduation.

## 2. SYLLABUS

Simple graduation has B.Sc., B.Com., and B.A., while diploma has core branches in Civil, Electrical and Mechanical engineering

etc. Global scenario reflects B.Sc. far better than B. Com and B. Arts. but in diploma branches have equal status on technically, like civil= electrical= mechanical. As diploma engineering passers are used for construction, execution, planning, designing, valuation, estimation, surveying, testing and drawing, etc.

As the graduation is assessed annually by annual exams and diploma subjects are semester wise and practical are too semester wise where labs in diploma exists well equipped with calibrated apparatus and equipment with materials and students perform all practical in such a manner that they have to check them on site too for the interpretation of result. Also they know how to run the equipment, read the reading on calibrated dial, draw figure, remove the error and procedure of testing, data to record on standard performant know the compare with other material to make the best use.

In diploma, some subjects are interlinked with another branches, subjects like physics, chemistry, mathematics, professional communication, environmental studies and energy conservation etc. Also some subjects of electrical and mechanical are to be read by civil students, mechanical and civil by electrical students and electrical & civil by mechanical students. This does not exist with simple graduation and this should happen so that over all knowledge of literature-science-mathematics-commerce could be known by learners for better skill.

Here in a nut shell syllabus of diploma and simple graduation are being tabulated below to compare and counting of subjects.



Table 1 : Syllabus of Diploma and Other Courses

				FIRST YEAR		
				ANNUAL SYSTEM		
FIRST SEMESTER				B.Sc.	B.Com.	B.A.
SL NO	DIP CIVIL	DIP.ELECT	DIP.MECH.			
1	Com Skill-1	Com Skill-1	Com Skill-1	BSFRG	LSWSE	BSERG
2	App Maths-1	App Maths-1	App Maths-1	DVBF	CL	PVMK
3	App Phy-1	App Phy-1	App Phy-1	DALB	CA	HNR
4	App Chem	App Chem	App Chem	DPG	PBM	PT
5	Const Material	BIT (Pr)	Engg Drawing-1	Inorg Chem	IT	NMACI
6	Engg Drawing-1	Com Skill-1(Pr)	BIT (Pr)	Org.Chem	FEP	POEA
7	Com Skill-1 Pr	App Phy-1 (Pr)	Com. Skill-1 Pr	Phy.Chem.	PF	IE
8	App Phy-1 Pr	App Chem (Pr)	App Phy-1	LNC	Qualifying	Qualifying
9	App Chem Pr	GWP (Pr)	App Chem.	HNC		
10	Const Material Pr			CBG		
11	G W P - Pr		G.W.P - Pr.	Pr-1		
12	S C A	S C A	S C A	Pr-2		
TOTAL	6 Theory + 5 Prac + SCA = 12	4 Theory + 5 Prac + SCA = 10	6 Theory + 5 Prac.+ SCA = 11	Pr-3		
<b>SECOND SEMESTER</b>				<b>Qualifying</b>		
1	App Maths-II	App Maths-II	App Maths-II			
2	B.M.E.E	App Phy-II	App Phy-II			
3	App Mech	BEE	App Mech			
4	CAD (Pr)	BMCE	G.Engg.			
5	BIT (Pr)	Ana. Elex.	Engg. Drawing-II			
6	GWP-2 (Pr)	GWP-2 (Pr)	App.Phys-II (Pr)			
7	App.Mech. (Pr)	App.Phys-II (Pr)	App.Mech (Pr)			
8	B.M.E.E (Pr)	BEE (Pr)	G.Engg. (Pr)			
9		BMCE (Pr)	GWP-2 (Pr)			
10		Ana. Elex. (Pr)				
11	SCA	S C A	S C A			
Total	3 Theory + 5 Prac. + SCA = 9	5 Theory + 5 Prac. + SCA = 11	5 Theory + 4 Prac. + SCA = 10	10 Theory + 3 Prac.+Qualifying= 1, Total=14	7 Theory+Quali fying=8	7 Theory+Qualifying =8
Net Total	9 TH+10 Pr.+2 SCA=21	9 TH+10 Pr.+2 SCA=22	10 TH+9 Pr.+2 SCA=21	10 TH+3 Pr+ Qualifying=14	7 TH+ Qualifying=8	7 TH+ Qualifying=8
Ratio	21	22	21	14	8	8
Ratio	2.65	2.75	2.65	18	1	1

				SECOND YEAR		
THIRD SEMESTER				ANNUAL SYSTEM		
SL NO	DIP CML	DIP ELECT	DIP MECH	B Sc	B Com.	B.A.
1	HMM	App Maths-III	App Maths-III	LCWSE	LCWSE	LCWSE
2	Conc Tech	EIM	Engg Material	DASDR	CL	Drama
3	Env Studies	Env Studies	MOS	CGEE	CA	Fiction
4	Str Mech	DE	Ther Engg	PPB	PBM	PHMI
5	Bldg Const	EMC-I	WT	Inorg Chem	IT	AOH
6	Bldg Drg	EEEM	CAD 3D Mod (Pr)	Org Chem	FEP	WPT
7	HMM (Pr)	EIM (Pr)	Engg. Material (Pr)	Chemical data	PF	Qualifying
8	C T (Pr)	DE (Pr)	MOS (Pr)	ADED	Qualifying	
9	ENV STD (Pr)	Env. Studies (Pr)	Thermal (Pr)	P.B.		
10	Str. Mech. (P)	EMC-I (Pr)		Phy. Chem.		
11	B C (P)			Practical		
12	SCA	SCA	SCA	Practical		
				Practical		
				Qualifying		
TOTAL	6 Theory + 5 Prac. + SCA = 12	6 Theory + 4 Prac. + SCA = 11	5 Theory + 5 Prac.+ SCA = 11			
FOURTH SEMESTER						
1	Com. Skill-II	Com. Skill-II	Com. Skill-II			
2	Highway Engg.	IEC	RAC			
3	Irr. Engg	EDDE-I	HYDP			
4	Sur-I	PPE	CADM			
5	RCCS	TDEP	ENV.STD.			
6	Energy Conversation	Energy Conversation	ENER.Con s.			
7	RCC Drg.	UH values	UH values			
8	Com. Skill-II (Pr)	Com. Skill-II (Pr)	Com. Skill-II (Pr)			
9	Highway Engg. (Pr)	IEC (Pr)	RAC (Pr)			
10	Sur-I (Pr)	EDDE-I (Pr)	HYDP (Pr)			
11	Energy Con. (Pr)	Energy Conser. (Pr)	CAD (Pr)			
12		UHV (Pr)	ES (Pr)			
13			UHV- (Pr)			
14	SCA	SCA	SCA			
TOTAL	7 Theory + 4 Prac. + SCA = 12	7 Theory + 5 Prac. + SCA = 13	7 Theory + 6Prac.+ SCA = 14	10Theory + 3Prac.+ 1 Qualifying=14	7 Theory + Qualifying=8	7Theory + Qualifying=8
Net Total	13 TH+9 Pr.+2 SCA=24	13 TH+9 Pr.+2 SCA=24	12 TH+11 Pr.+2 SCA= 25	10 TH+3 Pr+Qualifying= 14	7 TH+Qualifying =8	7 TH+Qualifying=8
Ratio	3	3	3.125	1.75	1	1

FIFTH SEMESTER				THIRD YEAR ANNUAL SYSTEM			
SL. NO.	DIP. CIVIL	DIP. ELEC	DIP. MEC	B. Sc.	B. Com.	B. A.	
1	WWWE	MEED	MEED	PRVP	CA	FFN	
2	RBT	SGP	TOM	MBBT	Auditing	DTN	
3	EQ	PLC	MCD	Env. Botony	MFS	EGD	
4	SMFE	EMC-II	PT	Inorg. Chem	TTB	QM	
5	SUR-II	EM	PM	Org. Chem	FM	PHI	
6	UHV	PLC-(Pr)	CAD	Phy. Chem.	PM	HIC	
7	WWED		PT (Pr)	AEZ	Practical	Practical	
8	UHV (Pr)		PM (Pr)	BIBT	Qualifying	Qualifying	
9	SUR-II		CAD (Pr)	EMA			
10	SMFE			Practical			
11	WWWE			Practical			
12	SCA	SCA	SCA	Practical	Qualifying		
TOTAL	6 Theory + 5 Prac. + SCA = 12	5 Theory + 2 Prac. + SCA = 8	6 Theory + 3 Prac. + SCA = 10				
SIXTH SEMESTER							
1	QSV	IMREE	IE				
2	CMAED	EDDE-II	MMI				
3	DSS	UEE	CNCMA				
4	EM	ACSEE	CAD				
5	SSD	Project	IE (Pr)				
6	SAGE	IMREE	MMI (Pr)				
7	Project	EDDE-II	CNC (Pr)				
8	SCA	SCA	CAD (Pr)				
9			Project				
10			SCA				
TOTAL	5 Theory + 2 Prac. + SCA = 8	3 Theory + 4 Prac. + SCA = 8	4 Theory + 5 Prac. + SCA = 10	9 TH+3 Pr+Qualifyin g=13	6 TH+1 Pr+Qualifyin g=8	6 TH+Pr+Qua lifyin g=8	
Net Total	11 TH+7 Pr.+2 SCA=20	8 TH+6 Pr.+2 SCA=16	10 TH+8 Pr.+2 SCA=20	9 TH+3 Pr+Qualifyin g=13	6 TH+Pr+Qua lifyin g=8	6 TH+Pr+Qua lifyin g=8	
Ratio	2.5	2	2.5	1.625	1	1	



Over all Total					
CIVIL	ELECT.	MECH.	B.Sc.	B.Com.	B.A.
33 TH + 26 Pr.+6 SCA	30 TH + 25 Pr.+6 SCA	32TH + 28Pr.+6 SCA	29 TH + 9 Pr.+ 3 Qualifying	20 TH + 1 Pr.+ 3 Qualifying	20 TH + 1 Pr.+ 3 Qualifying
65	61	66	41	24	24
2.7	2.54	2.75	1.71	1	1

### 3. MARKS DISTRIBUTION

Tabulated form of marks for various subject has been marked to get know the distinction for various courses.

Table 2 : Marks Distribution

Diploma civil	Diploma electrical	Diploma mechanical	B.A.	B.COM	B.Sc.
Sem-1=700	Sem-1=700	Sem-1=700	First year=400	First year=700	First year=700
Sem-2=600	Sem-2=600	Sem-2=600	-	-	-
Total=1300	Total=1300	Total=1300	Total=400	Total=700	Total=700
Carry over=390	Carry over=390	Carry over=390	Carry over=400	Carry over=700	Carry over=700
Sem-3=630	Sem-3=660	Sem-3=570	Second year=400	Second year=700	Second year=700
Sem-4=640	Sem-4=680	Sem-4=680	Total=400	Total=700	Total=700
Total=1270	Total=1340	Total=1250	Carry over=400	Carry over=700	Carry over=700
Carry over=889	Carry over=938	Carry over=875			
Sem-5=640	Sem-5=640	Sem-5=630	Third year=300	Third year=700	Third year=600
Sem-6=680	Sem-6=605	Sem-6=500	Total=300	Total=700	Total=600
Total=1320	Total=1245	Total=1130	Carry over=300	Carry over=700	Carry over=600
Carry over=1320	Carry over=1245	Carry over=1130			
NET TOTAL=	NET TOTAL=	NET TOTAL=	NET TOTAL=	NET TOTAL=	NET TOTAL=
2599	2573	2395	1100	2100	2000

#### 4. FEE STRUCTURE

In diploma courses government institute run the classes in one shift and government aided institution run the classes in two shifts. The NSQF (National Skilled Qualification Framework) and AICTE have made fee structure as tuition fee Rs.9030/- P.A. and Rs.14430/- for first shift/ Rs.21000/-for second shift by the government/govt. aided or by management. While in Graduation B.Sc./ B.Com./B.A. tuition fee is set by the governing body which is less than diploma in engineering courses.

#### 5. JOB OPPORTUNITY

Because the diploma is a technical qualification hence job opportunity exists much more than simple graduation in the form of Junior Engineer in central government, state government, Public sector undertakings and private sectors conclude like Railway, RED,PWD.CPWD, MES, Irrigation, Power Corporation, IOCL,BHEL,JAL NIGAM, Development Authority, Housing Board, Nagar Nigam, Cantonment Board, Mandi Parishad and Power Grid Corporation, ONGC, and Post n Telegraph and many more in private concerns, because they are capable in solving problems like in mathematics, science and on technical points too. Also they may set up own small industry like paver blocks, RCC hume pipe, brick kilns, do contractor-ship, set up own consultancy in the form of surveying, drawing, estimation, testing of material etc. While in simple graduation job opportunities are less because of lack commercially fit. A few are able to get job by much struggling. It may be taken as drop in the ocean. Diploma holders work on large scale and hold the different works usually done by others.

#### 6. HIGHER EDUCATION

Diploma holders proceed to 2nd year of B.Tech. under lateral entry system after qualifying entrance exam conducted by AKTU, a state level university. B.Sc pass-outs are also engaged in the same for doing B.Tech on regular mode. However, B.Sc may pursue to M. Sc / M. Com / M.A., while B. Com may pursue to M. Com or CA/CS a tough course to pass, and B.A. may only pursue M.A. Though some diploma holders pursue B.A. private,

inter-alia with diploma and on the same time they get diploma in engineering as regular and B.A. as private and with this they have two options. After doing even B. Tech. have three options in seeking job. Some diploma holders, register for Associate membership examination conducted by professional societies like The Institution of Engineers-India, The Institution of Electrical and Electronics Engineers-India, Indian Institute of Chemical Engineers, The Institution of Civil Engineers(India), The Institution of Surveyors(India), The Indian Institution of Architects, The Indian Institution of Industrial Engineers, Aeronautical Society of Engineers, Indian Institution of Ceramics and many more institutions, whose membership is fully recognized by various government, at par with bachelor degree in engineering for promotion as well as for pursuing higher education like M.E./M.Tech.

#### 7. JOB DESCRIPTION

Students after passing three-year diploma are placed on supervisory level posts under the pay scale Rs, 9300/-GP 4200-34800/- while the simple graduates are placed in same scale and absorbed as inspector and may approach to P.O in Banks further leading to IAS/PCS level cadre, through typical competition for the initial grade pay 5400/- bearing scale 15600-39100/-

#### 8. DISCREPANCY

As diploma holders during three-year span have to read approximately 30 theories and 30 labs where if one lab has 10 practical then 300 practical needed to learn and pass. As theoretical subjects are of varied knowledge where science and mathematical knowledge are applied which cannot be memorize or by rote learning but understanding is required to get the result oriented answers. While in general graduation, it has no chase with engineering diploma. A vast distinction has depicted by the author while covering the topic, which represents that diploma is not easy than general graduation.

The author has individual view that diploma should be treated with a good level of graduation and simple graduation be treated as certificate or advance certificate course.



## 9. MERGER OF APPROVAL BODIES

The course content of diploma and general graduation are accredited by All India Council for Technical Education (AICTE) and University Grants Commission (UGC) respectively. Usually technical, medical, professional/ vocational courses are approved and accredited by councils like AICTE, Medical Council of India, National Council of Teacher Education, Pharmacy Council of India, Indian Council of Agricultural Research, Bar Council of India and Council of Architecture etc. The course accredited by councils are more relevant, more subjects bearing, practical oriented, job oriented and useful in day today life. Recently the Government has planned to merge the UGC and AICTE to form common commission to be named as Higher Education Commission of India but it could not be formed and now the both are acting independently as it were. If this merged, then general graduation standard can be improved. Graduation doing through the University campus seems better than college as per state perspective.

## 10. CONCLUSION

The concluding part of this title reflects that diploma in engineering holders have to read more subjects during three-year span of the technical education and with diversified subject reading make them more job seeking options in life because of having mathematical calculations, scientifically approach, technically sound, supervisory skills, executory extras, wisely workable, expressive explanations, caricature drawing, problem solving, analytical thinking and financially adjustable. Simple graduation has options less in job seeking / higher education/ go through in competitions but have more social liking. While in job, ability may be much more with technical hands but behavioral attitude exists with simple graduate.

So the gist of this technical paper stands in favor of technical diploma bearers and promote this course judiciously for, to be treated at par with graduation or if not so, then the syllabi of diploma should be subsidized and number of subjects should also be made specified than simple graduation, so that differentiation in both courses could be assessed fairly and societal status of graduation could be more than diploma. This can happen only when the merger of UGC and Councils be occurred. As UGC is only fund granting agency, appears through its name, but it is involved in making regulations for the betterment of education in the country, however its colleges falling under its norms are not fulfilling the expectation of the society by their educational depth.

In existing days when the competition is going on for the joining of services in various concerns which requires the knowledge in various subjects. In this respect simple degree holders have less probability in seeking job. Hence the interlinking of various subjects in simple degrees like mathematics, professional English, science and communication skills must be taught, so that all could get same approach in getting jobs and equivalent education in graduation could be made possible before the aspirants.

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