ತಂತಿ ವಿಳಾಸ : ಯೂನಿರೆಜ್
ದೂರವಾಣಿ ಸಂಖ್ಯೆ : 2419677 : 2419361
ಫ್ಯಾಕ್ಸ್ : 0821-2419363/2419301
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ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ

ಸ್ಥಾಪನೆ 1916

ವಿಶ್ವವಿದ್ಯಾನಿಲಯ ಕಾರ್ಯಸೌಧ
ಕ್ರಾಫರ್ಡ್ ಭವನ, ಅಂಚೆ ಪೆಟ್ಟಿಗೆ ಸಂಖ್ಯೆ 406
ಮೈಸೂರು-570 005

ಸಂಖ್ಯೆ:ಎಸಿ2(ಎಸ್)/402/2013-14

ದಿನಾಂಕ: 12-08-2014

ಅಧಿಸೂಚನೆ

ವಿಷಯ: ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಸಹಯೋಗದೊಂದಿಗೆ M/S Wings Creations Pvt. Ltd., Bangalore ಇವರು ಹೊಸದಾಗಿ B.Sc. Animation and VFX (visual effects) ಕೋರ್ಸ್‌ನ್ನು ಆರಂಭಿಸುವ ಬಗ್ಗೆ.

ಉಲ್ಲೇಖ: 1. ದಿನಾಂಕ 10-06-2014 ರಂದು ನಡೆದ ಆನಿಮೇಷನ್ ಅಧ್ಯಯನ ಮಂಡಳಿ (UG) ಸಭೆಯ ನಡವಳಿ.
2. ದಿನಾಂಕ 18-07-2014 ರ ಶಿಕ್ಷಣ ಮಂಡಳಿ ಸಭೆಯ ನಡವಳಿ.

ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಸಹಯೋಗದೊಂದಿಗೆ M/S Wings Creations Pvt. Ltd., Bangalore ಇವರು ಹೊಸದಾಗಿ B.Sc. Animation and VFX (visual effects) ಕೋರ್ಸ್‌ನ್ನು ಆರಂಭಿಸುವ ಬಗ್ಗೆ ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯದ ಜೊತೆ ಒಡಂಬಡಿಕೆ ಮಾಡಿಕೊಳ್ಳಲಾಗಿದೆ.

ಈ ಹಿನ್ನೆಲೆಯಲ್ಲಿ, ದಿನಾಂಕ 10-06-2014 ರಂದು ನಡೆದ ಆನಿಮೇಷನ್ ಅಧ್ಯಯನ ಮಂಡಳಿಯ (UG) ಸಭೆಯು B.Sc. Animation and VFX (visual effects) ಕೋರ್ಸ್‌ಗೆ ಅನ್ವಯವಾಗುವಂತೆ Syllabus, Scheme of Examination and Regulation -ಗಳನ್ನು ರೂಪಿಸಿ, ಪ್ರಸಕ್ತ 2014-15 ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದಲೇ ಜಾರಿಗೆ ತರುವಂತೆ ಶಿಫಾರಸ್ಸು ಮಾಡಿದೆ.

ಪ್ರಸ್ತಾವನೆಯನ್ನು ದಿನಾಂಕ 18-07-2014 ರ ಶಿಕ್ಷಣ ಮಂಡಳಿ ಸಭೆಯು ಅನುಮೋದಿಸಿರುವ ಹಿನ್ನೆಲೆಯಲ್ಲಿ ಈ ಅಧಿಸೂಚನೆಯನ್ನು ಪ್ರಕಟಿಸಿದೆ.

ಈ ಅಧಿಸೂಚನೆಯೊಂದಿಗೆ B.Sc. Animation and VFX (visual effects) ಕೋರ್ಸ್‌ಗೆ ಸಂಬಂಧಪಟ್ಟ, Syllabus, Scheme of Examination and Regulation -ಗಳ ಪ್ರತಿ ಲಗತ್ತಿಸಿದೆ.

13/8/14
ಕುಲಸಚಿವ

ಇವರಿಗೆ:

1. The Director, Wings Creations Pvt Ltd,No.983, 1st Cross, 80ft Peripheral Road, S.T. Bed Layout Koramangala,Bangalore-560034.Bangalore-560 100.
2. ಕುಲಸಚಿವರು (ಪರಿಕ್ಷಾಂಗ)-ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು- ಮಾಹಿತಿಗಾಗಿ ಹಾಗೂ ಮುಂದಿನ ಅಗತ್ಯ ಕ್ರಮಕ್ಕಾಗಿ
3. ಪ್ರೊ. ಪ್ರಕಾಶ್ ಆರ್. ನಾಯಕ್, ಡೀನರು, ವಿಜ್ಞಾನ ಮತ್ತು ತಂತ್ರಜ್ಞಾನ ನಿಕಾಯ ಪ್ರಾಣಿ ಶಾಸ್ತ್ರ ಅಧ್ಯಯನ ವಿಭಾಗ ಮಾನಸ ಗಂಗೋತ್ರಿ ಮೈಸೂರು.
4. ಉಪಕುಲಸಚಿವರು/ಸಹಾಯಕ ಕುಲಸಚಿವರು, (ಪರೀಕ್ಷಾ ವಿಭಾಗ) ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು.
5. ಡಾ.ಎಂ.ಎನ್. ನರಸಿಂಹ ಮೂರ್ತಿ, ಸಂಖ್ಯಾಶಾಸ್ತ್ರಜ್ಞರು, (ಪರೀಕ್ಷಾ ವಿಭಾಗ) ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು
6. ಕುಲಪತಿಗಳು/ಕುಲಸಚಿವರು/ಕುಲಸಚಿವರು(ಪರೀಕ್ಷಾ ವಿಭಾಗ) – ಇವರುಗಳ ಆಪ್ತ ಸಹಾಯಕರುಗಳು, ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು
7. ಕಾರ್ಯನಿರ್ವಾಹಕರು- ಎಸಿ-07(out-Reach), ಅಡಳಿತ ಶಾಖೆ, ಶೈಕ್ಷಣಿಕ ವಿಭಾಗ, ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ, ಮೈಸೂರು
8. ಕಛೇರಿ ಪ್ರತಿ

UNIVERSITY OF MYSORE

Centre for Information Science and Technology

List of Examiners Recommended by the Board of Studies in Animation for Bachelors in Animation and VFX (OUT REACH) Examinations for the year 2014– 2017

Names and Addresses of Internal Examiners:

1. **Prof. A. Balasubramanian** Director , EMMRC University of Mysore	2. **Dr. C. Amrutha valli** Associate professor CIST, UOM, MGM
3. **Smt. L. Hamsaveni** Assistant professor DoS in CS, MGM	4. **Mrs . N. Pankaja** Assistant professor CIST, UOM, MGM
5. **Dr. H. S. Nagendra Swamy** Associate professor DoS in CS, MGM	6. **Dr. Suresha** Professor DoS in CS, MGM
7. **Mr. Santhosha. A. B** Assistant professor, EMMRC University of Mysore	8. **Mr. T. Chandraiah** Associate professor Dept. of CS, Yuvaraja's College, MGM
9. **Smt. Annapoorna. H** Associate professor Dept. of CS, Yuvaraja's College, MGM	10. **Smt. Sangeetha** Assistant professor CIST, UOM, MGM
11. **Mr. Syed Khaleem** EMMRC University of Mysore, MGM	12. **Dr. K. T. Sunitha** Professor, DOS in English University of Mysore, MGM
13. **Dr. L. Devika Rani**	14. **Dr. G. Venkatesh Kumar**

Associate Professor, DOS in English University of Mysore, MGM	Professor, DOS in Psychology University of Mysore, MGM

Names and Addresses of External Examiners:

1. Dr. S.K. Padma Professor, Department of ISE SJCE. MYSORE	**2. Dr. Sree pathi** Dept of Electronic Communication, Bangalore University
3. Sri Veranna Arkasali Lecturer, CAVA SayajiRao road, Mysore.	**4. Sri Ranganatha** Reader in Applied Art, College of fine arts Chitrakala parishth, Kumara Krupa Road, Bangalore.
5. Sri. Ravi Murthy Lecturer in Applied Art, CAVA Sayaji Rao road, Mysore.	**6. Sri Babu Jatkar** Lecturer in Applied Art. College of fine Arts, Chitrakala Parishth, Kumara Krupa Road, K. P. West. Bangalore
7. Mr. Muthamil Centre for electronic media Pondicherry university	**8. Ms. Manamathi** Centre for Electronic Media Pondicherry University
9. Dr. Arularam Director, EMMRC Anna University, Chennai	**10. Dr. Arul Selvan** Centre for Electronic Media Pondicherry University
11. Dr. Senthilnathan Dept of Educational Technology Bharathidasan University.	**12. Dr. Shobana Misra** Director, EMMRC Madurai Kamraj University
13. Dr. C. N. Ravi Kumar, B.E, M.Sc (Engg), Ph.D Head of the Department of Computer Science and Engineering, SJCE	**14. Prof. N. Balasubramanian** Dept. of Education and Communication Bharathiar University
15. Sri. Divakar. N Lecturer, Department of Computer Science and Engineering, SJCE	**16. Sri.Anil Kumar.K.M,** B.E, M.Tech Lecturer, Department of Computer Science and Engineering, SJCE
17. Dr. Waheeda Sultana Associate Professor DoS in Mass communication and Journalism, Mangalore University	**18. Balakrishna. M. R** Managing Director, Mediateck I'Soutions Pvt Ltd, President, ABAI, Managing Trustee, Samashtee Foundation, Bangalore
19. Ms. Vani. H. Y Asst. Professor, Dept of ISE SJCE, Mysore	**20. Ms. R. J. Prathibha** Asst. Professor, Dept Of ISE SJCE, Mysore
21. Mr. Madhusudhan. G Asst. Professor, Dept of ISE SJCE, Mysore	**22. Dr. D. S. Vinod** Asst. Professor, Dept Of ISE SJCE, Mysore
23. Smt. Yashoda K. Nanjappa Assistant Professor & Head Yuvaraja's College, Mysore	

Proposed Pattern of Question paper for the Bachelors in Animation and VFX course offered through out reach programme for the academic year Dec/ Jan 2014-2015 onwards

Time : 3 hours Max Mrks: 80

Instructions: a) Answer all the sections.
b) Draw illustrations wherever necessary.

PART-A

I. Answer **any ten** of the following. (2X10=20)

A.

B.

C.

D.

E.

F.

G.

H.

I.

J.

K.

L.

PART-B

Answer **any six** of the following. (6X10=60)

1.
   A.
   B.

2.
   A.
   B.

3.
   A.
   B.

4.
   A.
   B.

5.
   A.
   B.

6.
   A.
   B.

7.
   A.
   B.

8.
   A.
   B.

9.
   A.
   B.

10.
   A.
   B.

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UNIVERSITY OF MYSORE

REGULATIONS

For

Bachelors in Animation and VFX

Effective from the academic year 2014-15

Preamble:

Media and Entertainment are the most emerging and fast growing industries in India and the whole world is taking notice of the efficiency, skill and talent available in the country in these fields. To aid further growth of these industries, it is extremely important that formal and professional level training programs and courses are introduced at University and College levels to create highly skilled and trained professionals for this Industry. Animation is an important segment in this Industry and this course is being introduced to train people in the field of animation which is an inherent part of a variety of industries today and find applications in industries even beyond Media and Entertainment.

The data from NASSCOM (Animation & Gaming Report 2007) states that there are approximately 16000 animators in India and majority of these animators are employed gainfully in Mumbai, Chennai, Bangalore, Hyderabad, Pune etc. The lack of skilled people is badly affecting the animation industry. Most studios have projects lined up for the coming years with tight deadlines to keep as most of these projects are from the international market. This situation has forced the industry to look for animation professionals from international markets and many studios are recruiting foreign hands.

The animation business is sidelining the animation education and even after 15 years of existence in India the field is not understood. The existing animation education lacks professional training methodologies which are only available at Higher Education levels and comprises of Private training institutes that are cashing the visible boom in the industry. Some of these establishments can only provide ill trained and insecure artists and technicians which will only compound the problem. A lot needs to be done, at a very fast pace if we have to maintain our competitive edge and deliver content be it films, serials or games. There is a huge market for it as India has yet to discover its appetite for animation, and the world is still hungry for more!

Opportunities for professionals in Animation Industry:

Global market:

The global animation market (demand perspective) was estimated at USD 59 billion in 2006. The market is expected to grow at a CAGR of nearly 8 percent over 2008 to reach USD 80 billion by 2011. The total revenue earned in the segment, approximately 40-45 percent is attributed to the cost of development. Consequently the global market for animated content and related service is estimated at USD 25-26 billion and the forecast to cross USD 34 billion by 2011 with animation. The entertainment segment will continue to remain the major contributor, accounting for nearly three-fourth of the total market through the forecast period.

Indian market:

The Indian animation industry revenues were estimated at USD 354 million in 2006, a growth rate of 25 percent over 2005. This industry is forecast to reach USD 869 million by 2011, representing a CAGR of 25 percent by 2011. The entertainment contributes nearly 68 percent of the total animation market in India. The key factors driving the growth are significant, cost advantage, a large pool of English speaking manpower, growing maturity of animation studios and development of IP and an attractive domestic market opportunity.

Career Opportunities:

After completion of the Post Graduate Degree Program students can get job opportunities / placements in the following segments in industry:

1. Media and Entertainment
2. Animation Studios
3. Post Production Houses (PP)
4. Broadcast Houses
5. Game Studios (Game Art)
6. Visual Effects (VFX) for Films and Television
7. Advertisement Industry
8. Design Visualization
9. Architectural /Interior/Landscape Designing
10. Product Designing/Mechanical Visualization/Industrial designing
11. Medical Visualization
12. Set Designing/Exhibition Designing
13. Apparel/ Fashion Designing
14. E-learning/CBT Designing
15. Web Designing
16. Graphic Design
17. 3D Modeler
18. Animator
19. Material & Lighting Artist
20. Action Scripting Programmer
21. Virtual Reality Artist
22. Rigging Artist
23. Compositor
24. Editor
25. VFX Artist

Target Industries:

- Motion Picture Productions
- Television Broadcast Production Advertising
- Medical Animation
- Cartoon Animation
- Architectural Designs
- Interior Designing
- Automobile Designing
- Fashion Product and accessory Designs
- Video Gaming

Considering the career opportunities and growth in the field of multimedia and animation as justified above, the Wings Creations Pvt. Ltd. proposes to start an Under-Graduation program of three years viz., Bachelors in Animation and Visual Effects (B.AVFX) under faculty of Science and Technology, University of Mysore.

1. **Eligibility for Admission:** Those candidates who have successfully completed +2 or PU or equivalent OR 3 years Diploma after SSLC/10th Class or equivalent.

2. **Duration of the Course:** This is a 3 years program split into 6 semesters each of duration 4 months. However, the maximum duration permitted is 6 years from the date of admission as per the double the duration norm of the University of Mysore.

3. **Attendance requirement, progress and conduct:** As per the existing norms of the University of Mysore for other Bachelors' degree program.

4. **Hours of instructions/week:** Shown in the Tables.

5. **Titles of papers/practicals etc:** Shown in the Tables.

6. **Scheme of Examination/Assessment:** Shown in the Tables.

7. **Minima for a pass in each paper and aggregate and condition for promotion to next higher class:** A candidate has to get a minimum of 40% in every paper (Including IA). However a candidate has to obtain a minimum of 28 out of 80 in the semester-end examination in every paper. Examination will be conducted for both odd and even semesters at the end of every semester. The complete carryover system is permitted except when the candidate is detained for the attendance requirement. However before the candidate enters the 6th semester, the candidate should have completed all papers up to the end of 4th semester successfully and before submitting the final project report, the candidate should have completed all semesters up to the end of 5th semester.

8. **Classification of the successful candidates:** Based on the sum total of the marks secured in all successfully completed papers from all six semesters, class will be awarded.
   a) If the sum total mark is equal to or more than 70% of the aggregate then the candidate is placed in Distinction class.
   b) If the sum total mark is equal to or more than 60% and less than 70% then the candidate is placed in First class.
   c) If the sum total mark is equal to or more than 50% and less than 60 % then the candidate is placed in Second class.
   d) Remaining successful candidates are placed in Pass class.
   e) Transitory Provision: Not applicable.
   f) Fee structure: As decided by the University of Mysore / Government from time to time.

SCHEME OF INSTRUCTION

Semester 1:

Subject code	Title	Teaching hrs/week		Duration of exam (hrs)	Marks				
		Th.	Pr.		IA Max.	Th./Pr. Max.	Total	Th./Pr. Min.	Min. Pass
B.AVFX 1.1	Kannada /other Language-I	4	-	3	20	80	100	28	40
B.AVFX 1.2	English-I	4	-	3	20	80	100	28	40
B.AVFX 1.3	Fundamentals of Drawing	4	-	3	20	80	100	28	40
B.AVFX 1.4	Introduction to Visual Communication	4	-	3	20	80	100	28	40
B.AVFX 1.5	Introduction to Classical Animation	-	8	4	20	80	100	28	40
B.AVFX 1.6	Introduction to Graphic Design	-	8	4	20	80	100	28	40
	TOTAL	**16**	**16**				**600**		

Semester 2:

Subject code	Title	Teaching hrs/week		Duration of exam (hrs)	Marks				
		Th.	Pr.		IA Max.	Th./Pr. Max.	Total	Th./Pr. Min.	Min. Pass
B.AVFX 2.1	Kannada /other Language-II	4	-	3	20	80	100	28	40
B.AVFX 2.2	English-II	4	-	3	20	80	100	28	40
B.AVFX 2.3	Communication & Soft Skills	4	-	3	20	80	100	28	40
B.AVFX 2.4	Introduction to Photography	-	8	4	20	80	100	28	40
B.AVFX 2.5	Advance Classical Animation	-	8	4	20	80	100	28	40
B.AVFX 2.6	Introduction to 3D	4	-	3	20	80	100	28	40
	TOTAL	**16**	**16**				**600**		

Semester 3:

Subject code	Title	Teaching hrs/week		Duration of exam (hrs)	Marks				
		Th.	Pr.		IA Max.	Th./Pr. Max.	Total	Th./Pr. Min.	Min. Pass
B.AVFX 3.1	Kannada /other Language-III	4	-	3	20	80	100	28	40
B.AVFX 3.2	English-III	4	-	3	20	80	100	28	40
B.AVFX 3.3	Constitution of India	4	-	3	20	80	100	28	40
B.AVFX 3.4	Basic 3D Animation	4	-	3	20	80	100	28	40
B.AVFX 3.5	Introduction Editing & Compositing	-	8	4	20	80	100	28	40
B.AVFX 3.6	Basic Editing & Compositing	-	8	4	20	80	100	28	40
	TOTAL	**16**	**16**				**600**		

Semester 4:

Subject code	Title	Teaching hrs/week		Duration of exam (hrs)	Marks				
		Th.	Pr.		IA Max.	Th./Pr. Max.	Total	Th./Pr. Min.	Min. Pass
B.AVFX 4.1	Kannada /other Language-IV	4	-	3	20	80	100	28	40
B.AVFX 4.2	English-IV	4	-	3	20	80	100	28	40
B.AVFX 4.3	Environmental Studies	4	-	3	20	80	100	28	40
B.AVFX 4.4	Advanced Art of 3D & Compositing	4	-	3	20	80	100	28	40
B.AVFX 4.5	Advanced Art of 3D Animation	-	8	4	20	80	100	28	40
B.AVFX 4.6	Advanced Art of Compositing	-	8	4	20	80	100	28	40
	TOTAL	**16**	**16**				**600**		

Semester 5

Subject code	Title	Teaching hrs/week		Duration of exam (hrs)	Marks					
		Th.	Pr.		IA Max.	Th/Pr/Dis Max.	Viva Voce	Total	Th/Pr/Dis Min.	Min. Pass
B.AVFX 5.1	Personality Development and Body Language	4	-	3	20	80	-	100	28	40
B.AVFX 5.2	Elective: Theory	4	-	3	20	80	-	100	28	40
B.AVFX 5.3	Elective: Practical	-	8	4	40	160	-	200	56	80
B.AVFX 5.4	Elective: Project*	-	4	-	60	100	40	200	56	80
	TOTAL	**8**	**12**					**600**		

Elective (Choose any one Elective):

1. Modelling & Texturing (MT)
2. Lighting & CG Compositing (LC)
3. Animation (AN)
4. Visual Effects (FX)

***Project Guide Lines:**

a) Maximum 2 students shall be allowed to take up a project.
b) Each student will have to work for 24 hours per week in the Institute.
c) Guiding one project shall be considered as 4 hours of practical per week as the work load for the concerned internal guide.
d) Each student shall submit his/her project synopsis to the concerned guide within 15 days in consultation with guide from the commencement of the respective semester.
e) Each student has to carry out 2 project seminars compulsorily in project duration.
f) Each seminar will be considered for their internal assessment.

Scheme of valuation:

a) **Internal Assessment** **60 Marks**
   I. Synopsis 20 Marks
   II. Seminar -1 20 Marks
   III. Seminar -2 20 Marks
b) **Dissertation** **100 Marks**
   I. Documentation 40 Marks
   II. Presentation / Demonstration 60 Marks
c) **Viva-voce** **40 Marks**

Semester 6

Subject code	Title	Teaching hrs/week		Duration of exam (hrs)	Marks					
		Th.	Pr.		IA Max.	Th/Pr/Dis Max.	Viva Voce	Total	Th/Pr/Dis Min.	Min. Pass
B.AVFX 5.1	Internship	-	-	-	120	400	80	600	140	240
	TOTAL							**600**		

Internship Guide Lines:

a) Maximum 2 students shall be allowed to take up a project.
b) Each student will have to work for 48 hours per week in the institute / outside. If a student opts for industrial outside project, a college teacher has to be an internal guide. The student has to report/present his/her progress once in a week.
c) Guiding one project shall be considered as 4 hours of practical per week as the work load for the concerned internal guide.
d) Each student shall submit his/her project synopsis to the concerned guide within 15 days in consultation with guide from the commencement of the respective semester.
e) Each student has to carry out 2 project seminars compulsorily in project duration.
f) Each seminar will be considered for their internal assessment.

Scheme of valuation:

a) Internal Assessment **120 Marks**
- I. Synopsis 30 Marks
- II. Seminar -1 45 Marks
- III. Seminar -2 45 Marks

b) Dissertation **400 Marks**
- I. Documentation 100 Marks
- II. Demo Reel 300 Marks

c) Viva-voce **80 Marks**

SYLLABUS

SEMESTER - I

B.AVFX 1.1 Kannada / other Language -I

As per the syllabus recommended for the I Semester of Course B.Sc

B.AVFX 1.2 English-I

As per the syllabus recommended for the I Semester of Course B.Sc

B.AVFX 1.3 Fundamentals of Drawing

Unit: I - 20 marks

a) Equipment and materials
b) Basics of Drawing
c) How to draw
d) Basic Shapes and proportion

Unit: II - 20 marks

a) Fundamentals of perspective
b) Measurement and proportion
c) Use of drawing in painting
d) One point, two-point, three point perspective
e) Special vanishing points
f) Mixed perspective and ellipses

Unit: III - 20 marks

a) Creation of basic three-dimensional shapes using freehand techniques
b) Drawing with mass, Proportions, structure
c) Construction of the human form
d) Measuring techniques
e) Study of 3D form and its relationship to perspective

Unit: IV - 20 marks

a) shading and light
b) Study of forms from Nature
c) Basic Human Anatomy
d) Head Study

Text Book:

- Pencil Drawing Techniques by David lewis, Watson-Guptil Publication, NewYork, 1984, 144 pages
- Perspective Drawing Handbook by Joseph D'Amelio, Dover Publication, Inc., 2004, 96 pages

- Figure Drawing - Design and Invention by Michael Hampton, M. Hampton, 2009, 241 pages

Books for reference:

- Perspective Drawing by Kenneth Auvil, 2nd Edition, illustrated, Publisher: McGraw-Hill Education, 1996, 96 pages
- The Everything Drawing Book: from Basic Shapes to People and Animals by Helen South, Publisher: Adams Media, an F+W Publications Company, 2005, 233 pages

Assignment:

- Drawing perspective
- Gesture drawing
- Drawing poses and expression

B.AVFX 1.4 Introduction to Visual Communication

Unit: I - 20 marks

a) Need and important of Human and Visual Communication
b) Communication as a process
c) Understanding Communication

Unit: II - 20 marks

a) Communication as a process: Message, Meaning, Connotation
b) Levels of communication: Technical, Semantic and pragmatic
c) Basics of Visual elements
d) Lines, shapes, colour, value, texture, scale, and composition

Unit: III - 20 marks

a) Principles of visual Communication
b) Colour Psychology and theory (some aspects) Definition, Optical / Visual illusion etc
c) Types of Media – Traditional media, Print media, Electronic media and new media

Unit: IV - 20 marks

a) Basic of Graphic Design
b) Definition
c) Elements of Graphic Design
d) The process of developing ideas – Verbal, Visual, Combination and thematic, visual thinking, design execution and presentation.

Book for reference:

- Lester, E (2000) Visual Communication: Image with messages.
- Visual Elements of Arts and Design (1989) Longman Porter.
- Media presentation of Visual Arts and artists; University of Luton press Palmer, Frederic.

B.AVFX 1.5 Introduction to Classical Animation

Unit: I - 20 marks

a) Overview of Animation
b) History of animation and its implementation
c) Pipeline for making an animation film
d) Development of Animation through time manual
e) Animation Pre-Production
f) Story writing
g) Script
h) Storyboarding

Unit: II - 20 marks

a) Basic principles of Animation
b) Squash and stretch
c) Timing
d) Staging
e) Anticipation
f) Slow In and Out or Eases
g) Follow through and overlapping action
h) Straight Ahead Action and Pose-To-Pose Action
i) Arcs
j) Exaggeration
k) Secondary Action
l) Appeal

Unit: III - 20 marks

f) Overview of Classical Animation
g) Drawing for classical Animation
h) Introduction of 2D Animation
i) The process of 2d Animation

Unit: IV - 20 marks

j) law of motion
k) Understanding Body Mechanics
l) Basic Assignment of Animation

m) Different Medium for making animation

Text Book:

- The Animator's Survival Kit--Revised Edition: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Interne by Richard Williams, 2nd Edition, illustrated, Publisher: Faber & Faber, 2012, 392 pages
- The illusion of life: Disney animation by Frank Thomas, Ollie Johnston, Publisher: Hyperion, 1995, Original from the University of Michigan, 575 pages

Books for reference:

- The animation book: a complete guide to animated filmmaking--from flip-books to sound cartoons to 3-D animation by Kit Laybourne, 2nd Edition, Publisher: Three Rivers Press, 1998, 426 pages
- Enchanted Drawings: The History of Animation by Charles Solomon, Publisher: Knopf, 1989, 322 pages
- The complete animation course: the principles, practice and techniques of successful animation by Chris Patmore, Publisher: Barron's educational Series, Inc., 2003, 160 pages

Assignment:

- Story boarding
- Flip book creation
- Basic Assignment of Animation
- Walk Cycle

B.VFX 1.6 Introduction to Graphic Design

Unit: I - 20 marks

a) The Process of Design
b) Sign and Technology
c) Image resolution
d) Lossy, lossless compression method
e) Introduction to Image & Graphics
f) Text and Typography

Unit: II - 20 marks

a) Color Theory
b) Raster & Vector
c) The shape of Design
d) Image file formats
e) Basic of image editing software
f) Photo retouch

Unit: III - 20 marks

a) Basic of Photoshop
b) Colour Correction
c) creative concepts
d) Image Editing

Unit: IV - 20 marks

a) Raster Designing & Editing text
b) Formatting
c) Matte Painting
d) CorelDraw
e) Basic of Graphic Design

Text Book:

- Graphic Design Basics by Amy E. Arntson, 5th Edition, Thomson Wadsworth, 2007, 264 pages
- Adobe Photoshop CS5 Classroom in a Book, Official training workbook from Adobe System, 2010, 388 pages
- Corel Draw Graphics Suite 12 User Guide by Corel, 2003, 574 pages

Books for reference:

- Creative Photoshop: Digital Illustration and Art Techniques Covering Photoshop CS3 by Derek Lea, Digital Workflow Series, Publisher: Elsevier/Focal Press, 2007, 360 pages
- Digital Painting in Photoshop by Susan Ruddick Bloom, Publisher: Focal Press/Elsevier, 2009, 236 pages
- CorelDraw X3 by Foster D. Coburn III, 750pages

SEMESTER - II

B.AVFX 2.1 Kannada / other Language -II

As per the syllabus recommended for the I Semester of Course B.Sc

B.AVFX 2.2 English-II

As per the syllabus recommended for the I Semester of Course B.Sc

B.AVFX 2.3 Communication & Soft Skills

Unit: I - 20 marks

a) Interpersonal communication: Theories and Models – Transactional analysis

UNIT: II - 20 marks

a) Verbal communication and Non – Verbal communication theories and models
b) Types of Non – Verbal behaviour Kinesics

Unit: III - 20 marks

a) Group communication: Theories and models – Decision making process
b) leadership, and team work
c) Communication patterns in group context

Unit: IV - 20 marks

a) Public communication; Rhetoric model, Persuasion models
b) Ideation and creative thinking: Lateral thinking, designing, messages for different audiences.

Text Book:

Wood, Julia T: Communication mosaics: An introduction to the field of Communication, 2001, Wards worth. Larson, Charles, persuasion- Reception and responsibility Wards worth

B.AVFX 2.4 Introduction to Photography

Unit: I - 20 marks

a) Photography Basics
b) Brief history of Photography

Unit: II - 20 marks

a) Fundamentals of Photography
b) Object and Product Photography
c) Techniques of Photography- camera

Unit: III - 20 marks

a) Digital Photography -- Camera, Deleting, Chips, depending upon ME (Mega Bytes), Pixel
b) Outdoor Photography
c) Handling a professional still camera

Unit: IV - 20 marks

a) Studio photography
b) Indoor Photography
c) Photo manipulation with Photoshop

Text Book:

- Basic Photography by John Hedgecoe, Publisher: Collins & Brown, 2006, 160 pages
- The Photoshop CS Book for Digital Photographers by Scott Kelby, Publisher: New Riders Publishing, 2003, 250 pages

Books for reference:

- The 35mm Photographer's Handbook by Julian Calder, John Garrett, 2nd Edition, Publisher: Pan Macmillan, 1990, 240 pages
- Digital Photography: Expert Techniques by Ken Milburn, 2nd Edition, Publisher: O'Reilly Media, Inc., 2007, 390 pages
- The Photoshop CS Book for Digital Photographers by Scott Kelby, Publisher: New Riders Publishing, 2003, 250 pages
- Creative Photoshop: Digital Illustration and Art Techniques Covering Photoshop CS3, Digital Workflow Series by Derek Lea , Publisher: Elsevier/Focal Press, 2007, 360 pages

Assignment:

- Indoor / Outdoor Photography
- Product Photography
- Nature Photography

B.AVFX 2.5 Advance Classical Animation

Unit: I - 20 marks

a) Drawing for Animation
b) Timing for Animation
c) Body Machines
d) Pull push Animation

Unit: II - 20 marks

a) Facial Expressions
b) Lip-sync
c) Phonetics
d) Process of Animation

Unit: III - 20 marks

a) Acting for Animators
b) Dialogue Animation
c) Character Animation
d) Animation Short

Unit: IV - 20 marks

a) Animation Production
b) Advanced Assignment of Animation
c) Different treatment of 2D animation

Text Book:

- Animation from pencils to pixels by Tony White, Focal Press, 2006, 519 pages
- Timing for Animation, Second Edition by Harold Whitaker, Jhon Halas, Tom Sito, Focal Press, 2009, 174 pages

Books for reference:

- Animating Facial Features and Expressions by Bill Fleming, Darris Dobbs, Publisher: Charles River Media, 1999, 382 pages
- Art in Motion by Maureen Furniss, Publisher: John Libbey& Company Limited, 2007, 276 pages
- Horses and Other Animals in Motion: 45 Classic Photographic Sequences, Dover Anatomy for Artists Series by Eadweard Muybridge, Publisher: Dover Publ., 1985, 91 pages
- Drawing the Human Body: An Anatomical Guide by Giovanni Civardi, Publisher: Sterling Publishing Company, Inc., 2001, 168 pages
- The Figure by Walt Reed by Publisher: F.W. Publications, Inc., 1984, 150 pages
- The Artist's Complete Guide to Figure Drawing: A Contemporary Perspective on the Classical Tradition by Anthony Ryder, Publisher: Watson-Guptill Publications, 1999, 160 pages
- The Animator's Survival Kit--Revised Edition: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Interne by Richard Williams, 2nd Edition, illustrated, Publisher: Faber & Faber, 2012, 392 pages
- The contemporary animator by John Halas, Publisher: Focal Press, 1990, Original from the University of California, 128 pages

- Character animation 2D skill for better 3D by Steve Roberts, 2nd Edition, Publisher: Focal Press, 2012, 240 pages

Assignment:

- Misc. assignments on classical animation
- 2D Lip-sync and acting assignment

B.AVFX 2.6 Introduction to 3D

Unit: I - 20 marks

a) Introduction of 3D
b) 3D Production Pipeline
c) Concepts and methods of 3D Modelling
d) 3D Coordinate system

Unit: II - 20 marks

a) Introduction to Nurbs Curves
b) Basic Modelling
c) Nurbs surface editing

Unit: III - 20 marks

a) Polygon surface editing
b) Modifying and deforming geometry
c) Basic Character design and 3D Modelling using Polygon

Unit: IV - 20 marks

a) Basic Materials
b) Introduction to Texturing
c) Making Textures in Photoshop
d) Creating Texture Maps
e) Basic UV unwarp
f) Bump mapping
g) Background Texturing

Text Book:

- Mastering MAYA by Eric_Keller, Todd Palamar, Anthony Honn, Wiley Publishing, Inc., Indianapolis, 2010, 01 – 238 pages
- Digital Painting in Photoshop by Susan Ruddick Bloom, Publisher: Focal Press/Elsevier, 2009, 236 pages

Books for reference:

- Exploring 3D Animation with Maya 7, Design Exploration Series Graphic Design/Interactive Media Series by Patricia Beckmann, Phil Young 2nd Edition, illustrated, Publisher: Cengage Learning, 2006, 280 pages
- 3D Graphics and Animation, by Mark Giambruno 2nd Edition, illustrated, Publisher: New Riders Publishing, 2002, 588 pages
- Principles of Three-dimensional Computer Animation: Modeling, Rendering, and animating with 3D Computer Graphics by Michael O'Rourke, Publisher: Norton, 2003, 395 pages
- Introduction to Three-D Graphics and Animation Using Maya by Adam Watkins, Publisher: Charles River Media, 2006, 453 pages

SEMESTER - III

B.AVFX 3.1 Kannada / other Language -III

As per the syllabus recommended for the III Semester of Course B.Sc

B.AVFX 3.2 English-III

As per the syllabus recommended for the III Semester of Course B.Sc

B.AVFX 3.3 Constitution of India

As per the syllabus recommended for the III Semester of Course B.Sc

B.AVFX 3.4 Basic 3D Animation

Unit: I - 20 marks

Modelling:

Introduction to 3D Studio Max and UI, viewport navigation and manipulation, Select-Move-Rotate-Scale Tools, Standard Primitives, Key Board Shortcut Keys, Group, clone, understanding Main Tool Bar, Layer manager, Mirror Tool, Align Tool, Snaps Tool, selection filter, reference coordinate system, understanding pivot, Basic Modelling (pc table Modelling, Few furniture Modelling With Standard Primitives), Introduction to Modifier, Modelling using modifier, Introduction to Splines, understanding editable splines and Tools, Splines Modelling, Text , Enable render Splines, Extrude, lathe, Loft, Introduction to Poly Tools, Poly Modelling, Product / inorganic Modelling, Interior modelling, Exterior modelling / BG Modelling , cartoon character Modelling.

Unit: II - 20 marks

Texturing:

Introduction to Shading & Texturing, Texturing properties and aesthetics, Working with Diffuse, Opacity and Reflection, UVW MAP, Basic Unwrapping UVW, Creating Texture Maps, Diffuse Map, Spec Map Transparency map, Bump map, Displacement Mapping, Raytracing: Materials and Maps, Working with Procedural Mapping, Advanced Material: Blend, Composite, Multi-Object, Unwrapping a Car/BG, Texture painting, Unwrapping a cartoon character Torso: Planar/Pelt Mapping, Unwrapping a cartoon character face, Painting a Face Texture with UV Reference.

Digital sculpting:

Introduction to Digital sculpting, Mudbox Interface, Normal, Displacement maps Fundamentals, Application Integration, Sculpting Techniques, Sculpting Techniques, Texturing in Mudbox, Compilation of Assets, Tips and Tricks.

Unit: III - 20 marks

Lighting:

Introduction to Standard Lights, lights parameters, Basic 3 Point Light Setup, Exclude/Include, Interior Lighting- Day, Exterior Lighting – Day, Photometric Lights, Interior Lighting- Night, Exterior Lighting – Night, Render to Texture, Basic Render pass, Introduction to Mental Ray: Final Gather, Global Illumination, Mental Ray: Image Based Lighting system, Global Illumination:part-2 and Caustics, Mental Ray Shaders: MIA/DGS

Rigging:

Introduction to Connection (Hierarchy, Group, Link), Wire Parameters/Reaction Manager, Constraints and Controllers, Introduction to Bones & IK-FK, Basic Leg Setup, Arm Set-Up (FK/IK Blend), Arm Set-Up (Stretchy), Introduction to Biped Rig-Setting up the Skeleton, Introduction to Biped Rig-Creating Controls and Finishing the Rig, Facial Rig (Morpher/Joints), Basics of Skinning, Skinning a Character, Deformable Mesh, Skin Wrap, Skin Morph.

Unit: IV - 20 marks

Animation:

Introduction to Timeline, Basic Key frame Animation, Curve Editor, Dope Sheet, Bouncing ball with (spacing, Timing and distance), Different materials bouncing balls together with Concept, Understanding the usage of Graph Editor, Progressive Bouncing Ball with (timing, spacing & distance), Progressive Bouncing Ball with (Stretch and Squash), Pendulum with Settlement, Box with antenna Introduction to Character Studio, Keyframe Animation: Free/Planted/Sliding Key, Animation with Props(Biped Prop/Link Constrain), Motion Mixer, Posing for understanding the body balance and arc, Walk Cycle.

Dynamics:

Intro to Particle System, Par ray, Particle Instancing, Space Warps, Forces, Collisions, Node based Particle System: Pflow, Birth, Shape, find target, Speed Follow, Age Test, collision test, Spin, Garden Fountain, Cigarette Smoke, Arial Fireworks, Lemonade, Reactor Dynamics, Pool Table, Chess Wizard.

Text Book:

- Introducing Autodesk Maya 2014,DariushDerakhshani,Sybex
- Mastering Autodesk Maya 2013,Palamar,Sybex
- Introducing Mudbox™, By: AraKermanikian, Publisher: Sybex, Pub. Date: July 26, 2010

Books for reference:

- Introducing Autodesk Maya 2013: Autodesk Official Training Guide, Dariush Derakhshani, Sybex
- Maya 2010 in Simple Steps, Kogent Learning Solutions Inc., Simple Steps
- Mastering Maya 2009, w/cd, Eric Keller, Eric Allen. Sybex
- Introducing Maya 2011, w/cd, Dariush Derakhshani, Sybex

B.AVFX 3.5 Introduction Editing & Compositing

Unit: I - 20 marks

Video Editing:

Understanding interface, Concept of Non Linear Editing, Basic Editing, Transitions, Integrating Audio, Advanced Editing, Titling, Superimposing, Motion, Filters, Video Effects, Audio Effects.

Unit: II - 20 marks

Audio Editing:

Introduction to the workspace of Audition, Basic Sound theory, Importing, recording, Editing audio, Cleaning audio, restoring audio, Using shared elements, Integration with other software.

Unit : III - 20 marks

Compositing:

Broadcasting, Broadcasting Formats, General Discussion about vfx movies, Compositing, Make a compositing in AFX, Brief description of work area and panels, Preferences settings, Project settings. Shortcut for trimming, split layer, jumps to next-previous frames, Apply Animation principals. Roto Principals, Mask an image using roto principal, How to create Parallax effects in 2D animation through transform properties, Interpolation, Spatial and Temporal Interpolation, Spatial Interpolation. Raw across time, Define Orient along Path, Pre-compositing, Freeze, Reverse, Stretch and how to play with time v/s time graph, Describe Different masking tools, Animate a layer using mask path, Vegas and Stroke effects on mask path with simple motion graphics.

Unit: IV - 20 marks

Compositing:

Roto on a moving character, Hair roto, motion blur roto. Color Theory with AFX, Brightness-Contrast, Level, Curves, Color Balance, HSB, with AFX, Day to Night, Basic chroma removal filter with some simple examples. How to create hollow man effects, semi-transparent chroma, grain footage chroma, 2.5D layer system, Lighting parameters, 2D text effects, fire FX, dancing text,3D text effects, animation presets, Simple tracking, stabilizing, one point tracking, two point tracking, Four point

tracking, Track extension, Paint tools and basic wire removal, wire/rig removal, Particle for motion graphics.

Text Book:

- Premiere Pro CS5 in Simple Steps, Kogent Learning Solutions Inc., Simple Steps
- Adobe Audition CS6 Classroom in a Book, by Adobe Creative Team
- After Effects CS6 in Simple Steps, Kogent Learning Solutions Inc. Dreamtech

Books for reference:

- Adobe Premiere Pro 2 Bible, w/dvd, by Adele Droblas, Seth Greenberg,Wiley
- Exploring Adobe Premium Pro CS6, Prof. Sham Tickoo, Sakshi Malhotra, Dreamtech
- After Effects CS5 in Simple Steps, Kogent Learning Solutions Inc, Simple Steps

B.AVFX 3.6 Basic Editing & Compositing:

Unit: I - 20 marks

Video Editing:

Understanding interface, concept of non linear editing, basic editing, using transitions, integrating audio, advanced editing, titling, superimposing, motion, filters, short film.

Unit: II - 20 marks

Audio Editing:

Using the workspace of audition, basic sound theory, importing and recording in audition, editing audio, cleaning and restoring audio, using shared elements, integration with other software, assignments.

Unit: III - 20 marks

Compositing:

What is compositing? Make a compositing in AFX, brief description of work area and panels. Preference settings, Project settings, shortcut for trimming, split layer, jump to next-previous frames, etc, animation principals, roto principals. Mask an image using roto principal: how to create parallax effects in 2d animation through transform properties, what is interpolation? (Describe both spatial and temporal interpolation). Create an example with spatial interpolation. Example of raw across time, Define orient along path, creates curtain, clouds, etc using different filters, what is pre-compositing? Make solar system with pre-compositing, various use of pre-compositing, make lava effect with the use of pre-compositing, freeze, reverse, stretch and how to play with time v/s time graph, learning in-built plug-ins, describe different masking tools. Animate a layer using mask path, vegas and stroke effects on mask path with simple motion graphics, make some double role with steady camera

Unit: IV - 20 marks

Compositing:

Roto on a moving character, hair roto, motion blur roto, color theory. Brightness-contrast, level, curves, color balance, HSB, etc with AFX, day to night, basic chroma removal filter with some simple examples, how to create hollow man effects, how to remove semi transparent chroma, grain footage, part-by-part chroma remove, 2.5d layer system with an example., 2d text effects, fire FX, dancing text, etc. 3d text effects and how to use animation presets, simple tracking and stabilizing (one point and two point),four point tracking. Track extension, paint tools and basic wire removal. Complicate wire/rig removal using photoshop and after FX, fire effects. Particle for motion graphics, assignments.

Text Book:

- Premiere Pro CS5 in Simple Steps, Kogent Learning Solutions Inc., Simple Steps
- Adobe Audition CS6 Classroom in a Book, by Adobe Creative Team
- After Effects CS6 in Simple Steps, Kogent Learning Solutions Inc. Dreamtech

Books for reference:

- Adobe Premiere Pro 2 Bible, w/dvd, by Adele Droblas, Seth Greenberg, Wiley
- Exploring Adobe Premium Pro CS6, Prof. Sham Tickoo, Sakshi Malhotra, Dreamtech
- After Effects CS5 in Simple Steps, Kogent Learning Solutions Inc, Simple Steps

SEMESTER - IV

B.AVFX 4.1 Kannada / other Language -IV

As per the syllabus recommended for the IV Semester of Course B.Sc

B.AVFX 4.2 English-IV

As per the syllabus recommended for the IV Semester of Course B.Sc

B.AVFX 4.3 Environmental Studies

As per the syllabus recommended for the IV Semester of Course B.Sc

B.AVFX 4.4 Advanced Art of 3D & Compositing

Unit: I - 20 marks

Advanced Modelling:

Introduction to Maya, UI, panel navigation and manipulation, Select-Move-Rotate-Scale Tools, Standard Primitives:Part-1, Key Board Shortcut Keys, history and Node, freeze transformation, center pivot, group-ungroup, ayer editor, outliner window, understanding duplicate, duplicate with transform, duplicate special, CV and EP Curves, Curve Editing Tools ,image plane reference, Types of surface - Revolve, Modelling with Curves and surface, Types of surface - Loft, planar, extrude etc., Modelling with Curves and surface, Working with NURBS, NURBS Editing Tools, Convert NURBS to poly, Poly Modelling Tools: Mesh Menu > Combine, Separate, Extract, Booleans, Smooth, Average Vertices, Fill Hole, Create Polygon Tool, Sculpt Geometry Tool, Extrude, ,Insert Edge Loop Tool, Basic Poly Modelling, Poly Modelling Tools: Edit Mesh Menu > Bridge, Append to Polygon Tool, Interactive Split Tool, Offset Edge Loop Tool, Slide Edge Tool, Duplicate Face ,Merge, Merge to Center, Merge Vertex Tool, Merge Edge Tool, Delete Edge/Vertex, Chamfer Vertex, Bevel, Basic, Product / inorganic Modelling, Interior modelling, exterior modelling / BG Modelling, character modelling.

Advanced Texturing:

Introduction to Shading and Texturing, properties and aesthetics, Overview Different types of surface, Working with Maya Surface Nodes-Blinn, Phong and Lambert, Overview of hyper shade, Working with Transparency, Reflection and Refraction, glass-metal-water making, Creating Texture Maps: Diffuse/Spec/Transparency Bump, working with layered shader, Working With 2D and 3D Texture, working with UV Texture Editor, complex UV mapping (Inorganic),complex uv mapping -UV Mapping a 3D Character (Organic),Basics of Utilities, Condition, Sampler Info, Reverse, Stencil, Introduction to Visor tool.

Unit: II - 20 marks

Advanced Lighting:

Introduction to Maya Basic Lights, Point, Direct, Spot, Ambient, Area, Volume, Understanding Making and Breaking Lights link, light linking editor, Interior Lighting-Day, Exterior Lighting - Day, Interior Lighting - Night, Exterior Lighting - Night, render setup, basic pass render and composite (software render),render setup-mental ray, Mental Ray: Image Based Lighting system, Introduction to Mental Ray: Final Gather and Global Illumination.

Advanced Rigging:

Introduction to Rigging, Working with Connections: Connection Editor and SDK, Working with Connections: Constraints and Utility Nodes, Deformers-Lattice, Wrap, Cluster, Sculpt, Jiggle, Wire, Blend Shapes, Introduction to Joints and IK Handles, Creating an Arm Set-up, Arm Set-up: FK/IK Blend and Stretchy, Creating a Leg Set-up, Creating a Biped Rig: Setting up the Skeleton, Creating a Biped Rig: Finishing the Rig with Controls, Skin Binding and Painting Weights, Facial Rigging, Introduction to Muscle System, Working with Muscle Rig.

Unit: III - 20 marks

Advanced Animation:

Introduction to Animation, Timeline, Slider, Key Frames, Acquainted with keys of Basic concept of bouncing ball, Explain the concept of Graph Editor and Dope Sheet, Bouncing ball with spacing, Timing and distance, Stretch and Squash, Different materials bouncing balls together with Concept, Posing for understanding the body balance and arc, Posing with self reference, Biped Walk cycle statistics, Biped Walk cycle progressive with distance, Final correction with graph editor and Dope Sheet, Run Cycle progressive, Final correction with graph editor and Dope Sheet, Jump with distance, Final correction with graph editor & Dope Sheet, Basic mouth expression with - A E I O U, Basic Lip-sync with dialogue, Expressions with Joy, anger, shock.

Advanced Dynamics:

Introduction to particle Menus and its attributes, Emitters and its Attributes, Particle - Travel on Surface, Particle Instancer, Making Static Cloud With Particles, Introduction to Fluid Effect, Boat on an Ocean, Particles into Glass, Introduction to Soft Bodies, Soft Body - Rope Simulation, Introduction to Rigid Body and Constraints, Rope bridge simulation, Introduction to Hair, Hair Styling, Hair Styling, Hair Dynamics and Rendering, Introduction to Fur, Fur on Character: Baldness/Length/Color Map Baking.

Unit: IV - 20 marks

Advanced Compositing:

Basic Interface, Custom Preferences, Understanding use of Bins, Show some work of movie/project in Fusion, Discuss how important Fusion in Pipeline, Introduce tools, Create a basic compositing with reference to after effects/Photoshop and with their workflow, Create Curtain, clouds, etc using different creator tools, How to apply Transform tools in your workflow, How to apply keys on a property with basic example, How to apply Transform tools in your workflow, How to apply keys on a property with basic example, displace a text on curtain, Understanding Timeline, Interpolation, looping using Spline, Define various tools for masking, Use of pre-mask and post-mask, Simple character Roto, How to check your errors, Hair, motion blur roto, Introduction to color correction tools with sin city FX example, Day to Night (extract luma matte), mountain Lava FX, Use of Deep pixel tools using channel Boolean and openexr file, Compose 3d render passes, tools to remove chroma, Basic chroma remove, Garbage masking for keying, chroma remove in grainy footage, Part by part chroma remove, create macro design according your pipeline, Benefit of Macros, one point, two point and four point tracking, Stabilize shot, Extend the tracking information, Rotoscope using tracking Technique, introduction to 3D tools, Render 3d space, Interaction 3d tools with 2D tools, create shadow for a chroma shot using camera and lighting, camera projection using 3d tools in fusion, Import max/Maya file into fusion and use them for camera projection, introduction to particle tools. 2D v/s 3D particle, Basic types of Emitters, Workflow of 3D and 2D particle system, Rain, snow effects using different forces tools, water drops on glass, Fireworks, Blood on wall, Crowd multiplication using particle system, Ground ripple effect, How paint tool work, Cloning, Stamping, Completed Clean plate with moving shot. Wire and Rig remove, Wire or rig remove from the face or body.

Tracking & match moving:

Introduction to 3D Camera Tracking and match moving, Overview of Autodesk Match mover Interface, Working with Camera and Lens Distortion, Auto Tracking - Free Move shot, Auto Tracking - Zoom shot (Focal length variable), Supervised Tracking for difficult shot, Working with 3D geometry and Survey Points, Object based tracking, Video based Motion Capture, Integration of Solved data with Various 3D Applications.

Text Book:

- Introducing Autodesk Maya 2014, DariushDerakhshani, Sybex
- Mastering Autodesk Maya 2013, Palamar, Sybex
- Introducing Mudbox™, By: AraKermanikian, Publisher: Sybex, Pub. Date: July 26, 2010
- eyeon Fusion 6.3 Book, The Eyeon Fusion 6.3: A Tutorial Approach

Books for reference:

- Introducing Autodesk Maya 2013: Autodesk Official Training Guide, Dariush Derakhshani, Sybex
- Maya 2010 in Simple Steps, Kogent Learning Solutions Inc., Simple Steps
- Mastering Maya 2009, w/cd,Eric Keller, Eric Allen. Sybex
- Introducing Maya 2011, w/cd, Dariush Derakhshani, Sybex
- The Eyeon Fusion 6.2: A Tutorial Approach [Kindle Edition]Prof. Sham Tickoo Purdue Univ. CADCIM Technologies (Author)

B.AVFX 4.5 Advanced Art of 3D Animation

Unit: I - 20 marks

Advanced modelling:

Introduction to maya, UI, panel navigation and manipulation, select-move-rotate-scale tools, standard primitives: key board shortcut keys, history and node, freeze transformation, center pivot, group-ungroup, layer editor, outliner window, understanding duplicate, duplicate with transform, duplicate special, CV and EP curves, curve editing tools, image plane reference, types of surface - revolve, modelling with curves and surface, types of surface - loft ,planar, extrude etc., modelling with curves and surface, working with nurbs, nurbs editing tools, convert nurbs to poly, poly modelling tools: mesh menu > combine, separate, extract, Booleans, smooth, average vertices, fill hole, create polygon tool, sculpt geometry tool, extrude, insert edge loop tool, basic poly modelling, poly modelling tools: edit mesh menu > bridge, append to polygon tool, interactive split tool, offset edge loop tool, slide edge tool, duplicate face, merge ,merge to center, merge vertex tool, merge edge tool, delete edge/vertex, chamfer vertex, bevel, basic, product / inorganic modelling, interior modelling, exterior modelling / BG modelling, character modelling.

Unit: II - 20 marks

Advanced texturing:

Introduction to shading and texturing, properties and aesthetics, overview different types of surface, working with Maya surface nodes-blinn, phong and lambert, overview of hyper-shade, working with transparency, reflection and refraction, glass-metal-water making, creating texture maps: diffuse/spec/transparency bump, working with layered shader, working with 2D and 3D texture, working with UV texture editor, complex UV mapping (inorganic),complex UV mapping - UV mapping a 3D character (organic), basics of utilities, condition, sampler info, reverse, stencil, introduction to visor tool.

Advanced lighting:

Introduction to Maya basic lights, point, direct, spot, ambient, area, volume, understanding making and breaking lights link, light linking editor, interior lighting-day, exterior lighting – day, interior lighting- night, exterior lighting – night, render setup , basic pass render and composite (software render), render setup-mental ray, mental ray: image based lighting system, introduction to mental ray: final gather and global illumination.

Unit: III - 20 marks

Advanced rigging:

Introduction to rigging, working with connections: connection editor and SDK, working with connections: constraints and utility nodes, deformers-lattice, wrap, cluster, sculpt, jiggle, wire, blend shapes, introduction to joints and IK handles, creating an arm set-up, arm set-up: FK/IK blend and stretchy, creating a leg set-up, creating a biped rig : setting up the skeleton, creating a biped rig : finishing the rig with controls, skin binding and painting weights, facial rigging, introduction to muscle system , working with muscle rig.

Advanced animation:

Introduction to animation, timeline, slider, key frames, acquainted with keys of basic concept of bouncing ball, explain the concept of graph editor and dope sheet, bouncing ball with spacing, timing & distance, stretch and squash, different materials bouncing balls together with concept, posing for understanding the body balance and arc, posing with self-reference, biped walk cycle statistics, biped walk cycle progressive with distance, final correction with graph editor and dope sheet, run cycle progressive, final correction with graph editor and dope sheet, jump with distance, final correction with graph editor and dope sheet, basic mouth expression with - a e i o u, basic lip-sync with dialogue, expressions with joy, anger, shock.

Unit: IV - 20 marks

Advanced dynamics:

Introduction to particle menus and its attributes, emitters and its attributes, particle - travel on surface, particle instancer, making static cloud with particles, introduction to fluid effect, boat on an ocean, particles into glass, introduction to soft bodies, soft body - rope simulation, introduction to rigid body and constraints, rope bridge simulation, introduction to hair, hair styling, hair styling, hair dynamics and rendering, introduction to fur, fur on character: baldness/length/color map baking.

Text Book:

- Introducing Autodesk Maya 2014, Dariush Derakhshani, Sybex
- Mastering Autodesk Maya 2013, Palamar, Sybex

Books for reference:

- Introducing Autodesk Maya 2013: Autodesk Official Training Guide, Dariush Derakhshani, Sybex
- Maya 2010 in Simple Steps, Kogent Learning Solutions Inc., Simple Steps
- Mastering Maya 2009, w/cd, Eric Keller, Eric Allen. Sybex
- Introducing Maya 2011, w/cd, Dariush Derakhshani, Sybex

B.AVFX 4.6 Advanced Art of Compositing:

Unit: I - 20 marks

Basic Interface, Custom Preferences, Understanding use of Bins, Show some work of movie/project in Fusion, Discuss how important Fusion in Pipeline, Introduce tools, Create a basic compositing with reference to after effects/Photoshop and with their workflow, Create Curtain, clouds, etc using different creator tools, How to apply Transform tools in your workflow, How to apply keys on a property with basic example, How to apply Transform tools in your workflow, How to apply keys on a property with basic example, displace a text on curtain, Understanding Timeline, Interpolation, looping using Spline, Define various tools for masking, Use of pre-mask and post-mask, Simple character Roto, How to check your errors, Hair, motion blur roto.

Unit: II - 20 marks

Introduction to color correction tools with sin city FX example, Day to Night (extract luma matte), mountain Lava FX, Use of Deep pixel tools using channel Boolean and openexr file, Compose 3d render passes, tools to remove chroma, Basic chroma remove, Garbage masking for keying, chroma remove in grainy footage, Part by part chroma remove, create macro design according your pipeline, Benefit of Macros, one point, two point and four point tracking, Stabilize shot, Extend the tracking information, Rotoscope using tracking Technique, introduction to 3D tools, Render 3d space, Interaction 3d tools with 2D tools, create shadow for a chroma shot using camera and lighting.

Unit: III - 20 marks

Camera projection using 3d tools in fusion, Import max/Maya file into fusion and use them for camera projection, introduction to particle tools. 2D v/s 3D particle, Basic types of Emitters, Workflow of 3D and 2D particle system, Rain, snow effects using different forces tools, water drops on glass, Fireworks, Blood on wall, Crowd multiplication using particle system, Ground ripple effect, How paint tool work, Cloning, Stamping, Completed Clean plate with moving shot. Wire and Rig remove, Wire or rig remove from the face or body.

Unit: IV - 20 marks

Introduction to 3D Camera Tracking and Match Moving, Overview of Autodesk Match mover Interface, Working with Camera and Lens Distortion Auto Tracking - Free Move shot, Auto Tracking - Zoom shot (Focal length variable), Supervised Tracking for difficult shot, working with 3D geometry and Survey Points, Object based tracking, video based Motion Capture, Integration of Solved data with various 3D Applications.

Text Book:

- Eyeon Fusion 6.3 Book, The Eyeon Fusion 6.3: A Tutorial Approach
- The Eyeon Fusion 6.2: A Tutorial Approach (Kindle Edition) Prof. Sham Tickoo Purdue Univ. CADCIM Technologies (Author)

SEMESTER - V

B.AVFX 5.1 Life Skills & Employability

Unit: I - 10 marks

What's Out There?

a) Where We Came From
b) What's Important To Me
c) What I'm Good At
d) What's Important To Me
e) Career Assessment
f) Setting Goals — Get R.E.A.L
g) Making Connections
h) Case Studies
i) What's Out There—Jobs
j) What's Out There – Training

Unit: II - 40 Marks

Communication - Listening, Speaking, Reading, Writing (LSRW)

a) English
b) Reading comprehension
c) Story writing
d) Essay writing
e) Group discussions
f) Listening comprehension
g) Pick and Speak
h) Free speech
i) Email and Telephone etiquette
j) Body language

Unit: III - 10 Marks

I, Me, Myself

a) Group dynamics / Team skills
b) Thinking out of the box
c) Perception building
d) Personal grooming

Unit: IV - 20 marks

The Work World—What's It Like? And Getting From Here to There

a) How Do People Really Get Jobs
b) What Are Different Jobs Like
c) Identifying and Coping With Problems on the Job and In School

d) The Management and Organizational Skills
e) Building a Resume
f) Job Search
g) Applying For a Job
h) Identifying the Barriers to Success
i) My Career Plan
j) Mock interviews

Books for reference:

- Getting from College to Career Rev Ed: Your Essential Guide to Succeeding in the Real World by Lindsey Pollak , Harper Collins Publishers.
- The Student EQ Edge: Emotional Intelligence and Your Academic and Personal Success by Steven J. Stein, Howard E. Book, Korrel Kanoy**,** Publisher Wiley
- High School English Grammar and Composition, P.C Wren (Author), H. Martin (Author), N.D.V. Prasada Rao (Editor) S. Chand Publishing.
- You Can Win: A Step By Step Tool for Top Achievers, by Shiv Khera, Publisher A&C Black.

B.AVFX 5.2MT Elective: Modelling & Texturing Unit: I

- 20 marks

Art Aesthetics:

Introduction, Visual Perception: observation Skills, Exercise Vase and Face, Exercise The Up Side Down Drawing, Exercise Pure Contour Drawing, Exercise Formatting, Guidelines for Concept Art (Understand concept Art), Aesthetics of Sculpting (Sculpting Aesthetics).

Technical Aesthetics:

Project pipeline (Understanding Project Pipeline), Planning (Prototype exercise), Behavior of polygon modeling, UVS (Polygon operations), Texturing notes (understanding of texturing).

Clay Sculpting:

History of sculpture and its basic concepts, Head Study, Study of structures and anatomy, Creating armature for Sculpture, Adding volume to the armature and posing it well, Sculpting.

Digital Painting:

BG Digital Panting, Character Face - Digital Painting

Unit: II - 20 marks

Digital Sculpting with Zbrush:

Power of Zbrush and Uses, Getting Used to User Interface, Using Various Templates of Brush and tools for real clay experience, Just Play clay and Pose, Introduction to UI, Preparation and planning (Poly groups, Sub Tools, Layers, Methods of Sculpting (Brushes, Alpha, Stencil, Projection, Deformers, Model human head with details by using Z-Brush, Model human head with details by using Z-Brush, A model imported from Maya and fine tune in zbrush, A model imported from Maya and fine tune in zbrush, Introduction to Z Sphere, Transpose, Retopology, Using zspheres to create base meshes, Taking one of the zspheres and modeling a detail form, Modeling Animal using Zsphere, Gesture poses, Understanding of UV space and Texturing, Poly paint, Z App link, Export of Normal, Displacement, Cavity maps.

Character lighting:

Character 3 point lighting setup, mood lighting.

Advanced Pass Render and CG Compositing:

Pass render in maya (Understanding Project Pipeline), Pass render in 3Ds Max (Understanding Project Pipeline), Rendering Pass (Maya), Rendering Pass (3Ds max), Advanced pass Compositing, Final output.

Unit: III - 20 marks

Set Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning, Techniques), Surface Details and Texturing.

Vehicle Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning, Techniques), Surface Details and Texturing.

Stylized Character Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning, Techniques), Surface Details and Texturing.

Unit: IV - 20 marks

Realistic Character Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning, Techniques), Surface Details and Texturing.

Low Poly Character Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning and Techniques), Surface Details and Texturing.

Blend Shapes:

Blend Shapes properties and aesthetics, understanding Morph Targets & Blend Shapes understanding facial anatomy & facial expressions, Basic mouth expression Shapes with - A E I O U, Face Blend Shapes, body blend Shapes, Morph Targets and Blend Shapes (muscular mesh/rig and free downloadable scripts and how they work).

Books for reference:

- Learning Autodesk Maya 2009 The Modeling & Animation Handbook: Official Autodesk Training Guide (Autodesk Maya Techniques: Offical Autodesk Training Guides) [Import] [Paperback], Autodesk Maya Press (Author)
- Mastering Autodesk Maya 2014: Autodesk Official Press
- Mastering ZBrush R3 w/ Paul Gaboury & Ryan Kingslien

B.AVFX 5.2LC Elective: Lighting & CG Compositing

Unit: I - 20 marks

Fundamentals of Lighting Design:

Definitions, Properties and Light Controls in real World, Importance of light in a movie (to be discussed how moods are set), Explaining the importance of framing a scene and then lighting it accordingly (keeping the mood of shot in mind, show examples), Sources of Light (Natural and artificial Light Sources), Great masters, cinematographer style, movie inspiration, conclusion, Student to be given three days. Tell them to collect examples of light and shadow by using their cameras (phone, digital, SLR doesn't matter) (at least 60). Tell them to make notes on their pictures what they noticed in it and why they took it. See their taken pictures in a group, discuss it. Why the photographs are good or bad, Shadows, framing, texture etc.

Light and Color:

Light and Color absorption and reflection Theory, practical experiments, Famous quotes, meaning, definition of color, Color wheel, Color schemes, Color models, aspects of color, terms related to color, general distribution and psychological implications of color, color temperatures, indoor lighting outdoor lighting examples, discussion and explaining, additive and subtractive color mixing, saturation, Discuss famous paintings and art history. 1 point 2 point 3 point lighting famous paintings.

Revisiting Basics of Shading:

Revisiting Basics of Materials and Working with Shading Models (3ds max): Blinn, Phong, Phong E, Anisotropic, etc.(Materials), Revisiting 2D Textures: Cloth, Water, Glass, Noise, Ramp, Bitmap.

Revisiting Basics of Materials and Working with Shading Models (Maya): Blinn, Phong, Lambert, Phong E, Anisotropic, Shading map, surface shader, use background (Materials), Revisiting 2D Textures: Cloth, Water, glass, Ramp, Bitmap.

Unit: II - 20 marks

Revisiting Basics of Lighting:

Revisiting 3Ds Max Basics Lighting, Revisiting Maya Basics Lighting, Basic 3 Point Lighting 3Ds Max, Basic 3 Point Lighting Maya.

Revisiting Rendering:

Rendering Process: Theories and Concepts, Revisiting 3Ds Max Rendering, Revisiting Maya Rendering.

Mental Ray:

Introduction to Mental Ray Shaders, dgs, mib, misss, lens shaders, RayTracing: Theory, Concepts and Practical usage, Shadow Types and their typical Uses: Dmapvs Raytrace, Mental Ray Lighting, Global Illumination and explanation of attributes with example, Final Gathering and explanation of attributes with example, Physical Sun & Sky and explanation of attributes with example, HDRI (Texturing & Lighting with HDRI maps), Mental Ray Rendering

Unit: III - 20 marks

V-Ray:

Vray introduction Render Settings, Introduction Vray Material, Vray Shading: Interior and Exterior, Introduction to Vray Light, Vray Light- Interior, Interior night, Exterior, Exterior night, V-ray Rendering - Interior, Interior night, Exterior, Exterior night, Introduction to Vray Render Settings in Maya

Advanced Pass Compositing (Fusion):

Revisiting UI and Tools, Pass Compositing.

Unit: IV - 20 marks

Advanced Pass Compositing (Nuke):

Introduction to Nuke UI and Workflow, Working with Color profiles, Color correction nodes Color Matching and Channels, Merge Tools with basic Compositing, Pass Compositing.

Environment Lighting:

Planning and preparing Model (Interior and exterior): Shading and Texturing, Day Lighting in maya, Lighting Pass Render in maya Software, Lighting Pass Compositing & Final output, Night Lighting in maya, Night Lighting Pass Render in maya Software, Night Lighting Pass Compositing & Final output, Mood Lighting in Maya, Mood Lighting Pass Render in maya Software, Mood Lighting Pass Compositing and Final output.

Text Book:

- Mastering Autodesk Maya 2013,Palamar,Sybex

Books for reference:

- Introducing Autodesk Maya 2013: Autodesk Official Training Guide, Dariush Derakhshani, Sybex
- Maya 2010 in Simple Steps, Kogent Learning Solutions Inc., Simple Steps
- Mastering Maya 2009, w/cd, Eric Keller, Eric Allen. Sybex
- Introducing Maya 2011, w/cd, Dariush Derakhshani,Sybex

B.AVFX 5.2AN Elective: Animation

Unit: I - 20 marks

Foundation:

Animation: History, Meaning, Types, Studios, films, films in India, Showcase - Different styles of Animation (Foreign and Indian), Animation flowchart, Dialogues for showreels and discussion on the acting part for the same, Re-visiting Maya Animation Basics, Bouncing Ball (Different weighted Ball), Principle of Animation with example, concept of X-sheet, Story board, Animatics, (reference video, self acting, video shoot), Key pose, breakdown, in-between (differences) cushioning, moving hold, BM, IK and FK. Different types of character Rig, Rig controls and character set ups.

Acting for Animation:

What is? Believable acting, Interesting acting, Movie, Mental and physical relaxation, breaking inhibition, neutrality exercise, Approaching Acting, Internal and external approach, sense memory exercise, Body Language, Dumb charades exercise, Storytelling-Mime, Extempore, stick pose drawing with reference, stick pose drawing with live reference, Posing (5 dynamic poses per day in Maya), Posing (face expression), Posing (5 dynamic poses per day in Maya including face expression).

Unit: II - 20 marks

Body Mechanics:

Walk cycle (Male) Upper body with attitude, Walk cycle (female) upper body with attitude, Walk cycle (Mood) upper body, Run Cycle, Biped, Four legged walk, Run Cycle, Quadruped.

Unit: III - 20 marks

Basic Performance:

Head Turn, Eye blink, Hand Gesture, only ball and legs rig for weight shift exercise, should show them 90 degrees turn, Walk and Stop - Can use the walk done by students, Walk, Run and Stop, Sit, get-up from a chair and walk, Jump and Settle.

Advance performance:

Lifting animation: Planning and blocking, graph edit and fine tuning, push pull animation: Planning and blocking, graph edit and fine tuning, Animation with Storyboard reference, Dialogue and Facial Expression (English), Dialogue and Facial Expression (Hindi), Dialogue and Facial Expression (Your regional language), Layout/ Camera/ Composition (creating camera and understanding lenses)

Unit: IV - 20 marks

Advance Acting Performance:

Planning, Layout, Lip-Sync, Blocking poses with face expression, Anticipation, Action, Reaction, cautioning, moving hold, breaking joints, drag, overlapping, follow through, secondary action, shot final with value add on and tricks and tips, shot final with value add on and tricks and tips, Planning, Layout, Lip-Sync, Blocking poses with face expression, Anticipation, Action, Reaction, cautioning, moving hold, breaking joints, drag, overlapping, follow through, secondary action, shot final with value add on and tricks and tips, Interaction of two characters with hand gestures, Fight sequence of two characters - Martial art.

Motion Builder:

Introduction and Overview, Exploring Motion Builder's navigation controls, Working with the Transport Controls, Animation with rigid bodies, Parenting and Aligning

objects, The Control Rig, Auxiliary Pivots, Motion capture data to a Character, Rigid body dynamics, Key frames Recording, Understanding character setup, Working with skeletons, Creating a custom camera, Rendering out movies for previews.

Books for reference:

- Animating Facial Features and Expressions by Bill Fleming, Darris Dobbs, Publisher: Charles River Media, 1999, 382 pages
- Art in Motion by Maureen Furniss, Publisher: John Libbey& Company Limited, 2007, 276 pages
- Horses and Other Animals in Motion: 45 Classic Photographic Sequences, Dover Anatomy for Artists Series by Eadweard Muybridge, Publisher: Dover Publ., 1985, 91 pages
- The Animator's Survival Kit--Revised Edition: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Interne by Richard Williams, 2nd Edition, illustrated, Publisher: Faber & Faber, 2012, 392 pages
- The contemporary animator by John Halas, Publisher: Focal Press, 1990, Original from the University of California, 128 pages
- Character animation 2D skill for better 3D by Steve Roberts, 2nd Edition, Publisher: Focal Press, 2012, 240 pages

B.AVFX 5.2FX Elective: Visual Effects

Unit: I - 20 marks

Nuke:

Nuke Workflow, Merge Tools with basic Compositing, Transformation and Animation, Rotoscope, Shuffle & Shuffle Copy, Color Management, Color Management, Keying, Tracking, Stabilize, Introduction to 3D, Import Geometry, Camera and Lights, Shader, Camera Projection, 3D Tracking, Cleanup, Compose Render Passes, Stereoscope

Silhouette:

Introduction to Silhouette and roto static and moving shape, Roto for human body using multiple shapes and IK, Roto for slow movement and camera Jerky/Jitter shot, Roto of hair Roto for motion blur shot, Roto for 2D-3D conversion.

Mocha:

Introduction to Planar tracking and Mocha Interface, Tracking and stabilize technique, Rotoscopy workflow, Rotoscopy for stereoscopy-1, Export shape and tracking data into Aftereffects, Fusion and Nuke.

Unit: II - 20 marks

Advanced Rotoscopy and Stereoscopy:

Advanced Rotoscopy including hair, compiling the character with some BG or Matte, Stereoscopy Introduction, Stereocopic Rotocopy.

Vue:

Introduction, project overview and Interface, Terrain basics, Objects, Working with atmospheres, Materials, Cameras, Lighting in vue, Rendering scene, Animation in vue Intergration of 3ds max component and Vue, Creating a Mountain Scene, Creating a complete environment.

Unit: III - 20 marks

Thinking Particles:

Introduction to Thinking particles and recreating the Pflow default system in TP, Particle Collisions and Object Breaking, Working with Blurp for Particle morph, Working with Geo Instance, Working with Joints, Working with fragmentation - Pre broken, Working with fragmentation - Procedural (volume Breaker), TP with Fume FX, Creating crowd.

Ray Fire:

Intro to ray fire and wall break using various techniques of Fragmentation, Gate demolition, Tower explosion, Building demolition, Create wall break and create cracks with character interaction, Create car explosion using Fume FX and Ray fire.

Fume FX:

Intro to Fume FX and workflow, Working with different sources- object, particles, Realistic Fire Creating realistic explosion, creating large scale smoke, Creating magic smoke, Create plasma energy, Create dust and smoke, Fume FX - Case Study.

Unit: IV - 20 marks

Real Flow:

Workflow of Real flow, Real Flow Emitter and Particles Types, Global & Exclusive link, Object Emission in Real Flow- Filling glass with water, Glass filled with ice, pour coke in it, Importing and scaling 3D Geometry, Creating mesh and Interaction with 3D Geo, Importing Mesh into Maya and basic lighting, Shading, Ultra motion water splash with Rigid body, Ultra motion water splash with Rigid body, Grapes interaction with Fluids, Rigid Body and Soft Body Dynamics, Breaking Objects and optimizing Simulation, Real wave Surface, Rigid Body interaction with Real Wave- Creating a Shore line, Rigid Body interaction with Real Wave- Creating a Shore line, Morph Daemon, Magic Daemons, Hybrido, Realflow render kit in Maya with example tsunami in city.

PF-Track:

UI and basic workflow of PF Track, Basic auto tracking and solving, use of mask in auto tracking, How and when to use masking, manual tracking and solving. Proper selection of user feature, solving problem with combine of user feature and auto features. Calculated estimate focal length, solved zoom camera with steady and rotation camera, solved zoom camera with free motion, Solved lens distorted footage, geometry based tracking, object tracking using auto feature and user features. - Hard track, face expression track - Soft track.

Books for reference:

- Nuke 101: Professional Compositing and Visual Effects [Import] [Paperback] Ron Ganbar (Author)
- Digital Compositing with Nuke [Import] [Paperback] Lee Lanier (Author)
- Eyeon Fusion 6.3 Book, The Eyeon Fusion 6.3: A Tutorial Approach
- The Eyeon Fusion 6.2: A Tutorial Approach (Kindle Edition) Prof. Sham Tickoo Purdue Univ. CADCIM Technologies (Author)

B.AVFX 5.3MT Elective: Modelling & Texturing Unit: I

- 20 marks

Art Aesthetics:

Introduction, Visual Perception: observation Skills, Exercise Vase and Face, Exercise The Up Side Down Drawing, Exercise Pure Contour Drawing, Exercise Formatting, Guidelines for Concept Art (Understand concept Art), Aesthetics of Sculpting (Sculpting Aesthetics).

Technical Aesthetics:

Project pipeline (Understanding Project Pipeline), Planning (Prototype exercise), Behavior of polygon modeling, UVS (Polygon operations), Texturing notes (understanding of texturing).

Clay Sculpting:

History of sculpture and its basic concepts, Head Study, Study of structures and anatomy, Creating armature for Sculpture, Adding volume to the armature and posing it well, Sculpting.

Digital Painting:

BG Digital Panting, Character Face - Digital Painting

Unit: II - 20 marks

Digital Sculpting with Zbrush:

Power of Zbrush and Uses, Getting Used to User Interface, Using Various Templates of Brush and tools for real clay experience, Just Play clay and Pose, Introduction to UI, Preparation and planning (Poly groups, Sub Tools, Layers, Methods of Sculpting (Brushes, Alpha, Stencil, Projection, Deformers, Model human head with details by using Z-Brush, Model human head with details by using Z-Brush, A model imported from Maya and fine tune in zbrush, A model imported from Maya and fine tune in zbrush, Introduction to Z Sphere, Transpose, Retopology, Using zspheres to create base meshes, Taking one of the zspheres and modeling a detail form, Modeling Animal using Zsphere, Gesture poses, Understanding of UV space and Texturing, Poly paint, Z App link, Export of Normal, Displacement, Cavity maps.

Character lighting:

Character 3 point lighting setup, mood lighting.

Advanced Pass Render and CG Compositing:

Pass render in maya (Understanding Project Pipeline), Pass render in 3Ds Max (Understanding Project Pipeline), Rendering Pass (Maya), Rendering Pass (3Ds max), Advanced pass Compositing, Final output.

Unit: III - 20 marks

Set Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning, Techniques), Surface Details and Texturing.

Vehicle Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning, Techniques), Surface Details and Texturing.

Stylized Character Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning, Techniques), Surface Details and Texturing.

Unit: IV - 20 marks

Realistic Character Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning, Techniques), Surface Details and Texturing.

Low Poly Character Modelling and Texturing:

Blocking (Set reference, Proportional Scale), Building up Shapes (Relative Scale, Form Development, Final correction and Detailing), UV Layout (Planning and Techniques), Surface Details and Texturing.

Blend Shapes:

Blend Shapes properties and aesthetics, understanding Morph Targets & Blend Shapes understanding facial anatomy & facial expressions, Basic mouth expression Shapes with - A E I O U, Face Blend Shapes, body blend Shapes, Morph Targets and Blend Shapes (muscular mesh/rig and free downloadable scripts and how they work).

Books for reference:

- Learning Autodesk Maya 2009 The Modeling & Animation Handbook: Official Autodesk Training Guide (Autodesk Maya Techniques: Offical Autodesk Training Guides) [Import] [Paperback], Autodesk Maya Press (Author)
- Mastering Autodesk Maya 2014: Autodesk Official Press
- Mastering ZBrush R3 w/ Paul Gaboury & Ryan Kingslien

B.AVFX 5.3LC Elective: Lighting & CG Compositing

Unit: I - 20 marks

Fundamentals of Lighting Design:

Definitions, Properties and Light Controls in real World, Importance of light in a movie (to be discussed how moods are set), Explaining the importance of framing a scene and then lighting it accordingly (keeping the mood of shot in mind, show examples), Sources of Light (Natural and artificial Light Sources), Great masters, cinematographer style, movie inspiration, conclusion, Student to be given three days. Tell them to collect examples of light and shadow by using their cameras (phone, digital, SLR doesn't matter) (at least 60). Tell them to make notes on their pictures what they noticed in it and why they took it. See their taken pictures in a group, discuss it. Why the photographs are good or bad, Shadows, framing, texture etc.

Light and Color:

Light and Color absorption and reflection Theory, practical experiments, Famous quotes, meaning, definition of color, Color wheel, Color schemes, Color models, aspects of color, terms related to color, general distribution and psychological implications of color, color temperatures, indoor lighting outdoor lighting examples, discussion and explaining, additive and subtractive color mixing, saturation, Discuss famous paintings and art history. 1 point 2 point 3 point lighting famous paintings.

Revisiting Basics of Shading:

Revisiting Basics of Materials and Working with Shading Models (3ds max): Blinn, Phong, Phong E, Anisotropic, etc.(Materials), Revisiting 2D Textures: Cloth, Water, Glass, Noise, Ramp, Bitmap.

Revisiting Basics of Materials and Working with Shading Models (Maya): Blinn, Phong, Lambert, Phong E, Anisotropic, Shading map, surface shader, use background (Materials), Revisiting 2D Textures: Cloth, Water, glass, Ramp, Bitmap.

Unit: II - 20 marks

Revisiting Basics of Lighting:

Revisiting 3Ds Max Basics Lighting, Revisiting Maya Basics Lighting, Basic 3 Point Lighting 3Ds Max, Basic 3 Point Lighting Maya.

Revisiting Rendering:

Rendering Process: Theories and Concepts, Revisiting 3Ds Max Rendering, Revisiting Maya Rendering.

Mental Ray:

Introduction to Mental Ray Shaders, dgs, mib, misss, lens shaders, RayTracing: Theory, Concepts and Practical usage, Shadow Types and their typical Uses: Dmapvs Raytrace, Mental Ray Lighting, Global Illumination and explanation of attributes with example, Final Gathering and explanation of attributes with example, Physical Sun & Sky and explanation of attributes with example, HDRI (Texturing & Lighting with HDRI maps), Mental Ray Rendering

Unit: III - 20 marks

V-Ray:

Vray introduction Render Settings, Introduction Vray Material, Vray Shading: Interior and Exterior, Introduction to Vray Light, Vray Light- Interior, Interior night, Exterior, Exterior night, V-ray Rendering - Interior, Interior night, Exterior, Exterior night, Introduction to Vray Render Settings in Maya

Advanced Pass Compositing (Fusion):

Revisiting UI and Tools, Pass Compositing.

Unit: IV - 20 marks

Advanced Pass Compositing (Nuke):

Introduction to Nuke UI and Workflow, Working with Color profiles, Color correction nodes Color Matching and Channels, Merge Tools with basic Compositing, Pass Compositing.

Environment Lighting:

Planning and preparing Model (Interior and exterior): Shading and Texturing, Day Lighting in maya, Lighting Pass Render in maya Software, Lighting Pass Compositing & Final output, Night Lighting in maya, Night Lighting Pass Render in maya Software, Night Lighting Pass Compositing & Final output, Mood Lighting in Maya, Mood Lighting Pass Render in maya Software, Mood Lighting Pass Compositing and Final output.

Text Book:

- Mastering Autodesk Maya 2013,Palamar,Sybex

Books for reference:

- Introducing Autodesk Maya 2013: Autodesk Official Training Guide, Dariush Derakhshani, Sybex
- Maya 2010 in Simple Steps, Kogent Learning Solutions Inc., Simple Steps
- Mastering Maya 2009, w/cd, Eric Keller, Eric Allen. Sybex
- Introducing Maya 2011, w/cd, Dariush Derakhshani,Sybex

B.AVFX 5.3AN Elective: Animation

Unit: I - 20 marks

Foundation:

Animation: History, Meaning, Types, Studios, films, films in India, Showcase - Different styles of Animation (Foreign and Indian), Animation flowchart, Dialogues for showreels and discussion on the acting part for the same, Re-visiting Maya Animation Basics, Bouncing Ball (Different weighted Ball), Principle of Animation with example, concept of X-sheet, Story board, Animatics, (reference video, self acting, video shoot), Key pose, breakdown, in-between (differences) cushioning, moving hold, BM, IK and FK. Different types of character Rig, Rig controls and character set ups.

Acting for Animation:

What is? Believable acting, Interesting acting, Movie, Mental and physical relaxation, breaking inhibition, neutrality exercise, Approaching Acting, Internal and external approach, sense memory exercise, Body Language, Dumb charades exercise, Storytelling-Mime, Extempore, stick pose drawing with reference, stick pose drawing with live reference, Posing (5 dynamic poses per day in Maya), Posing (face expression), Posing (5 dynamic poses per day in Maya including face expression).

Unit: II - 20 marks

Body Mechanics:

Walk cycle (Male) Upper body with attitude, Walk cycle (female) upper body with attitude, Walk cycle (Mood) upper body, Run Cycle, Biped, Four legged walk, Run Cycle, Quadruped.

Unit: III - 20 marks

Basic Performance:

Head Turn, Eye blink, Hand Gesture, only ball and legs rig for weight shift exercise, should show them 90 degrees turn, Walk and Stop - Can use the walk done by students, Walk, Run and Stop, Sit, get-up from a chair and walk, Jump and Settle.

Advance performance:

Lifting animation: Planning and blocking, graph edit and fine tuning, push pull animation: Planning and blocking, graph edit and fine tuning, Animation with Storyboard reference, Dialogue and Facial Expression (English), Dialogue and Facial Expression (Hindi), Dialogue and Facial Expression (Your regional language), Layout/ Camera/ Composition (creating camera and understanding lenses)

Unit: IV - 20 marks

Advance Acting Performance:

Planning, Layout, Lip-Sync, Blocking poses with face expression, Anticipation, Action, Reaction, cautioning, moving hold, breaking joints, drag, overlapping, follow through, secondary action, shot final with value add on and tricks and tips, shot final with value add on and tricks and tips, Planning, Layout, Lip-Sync, Blocking poses with face expression, Anticipation, Action, Reaction, cautioning, moving hold, breaking joints, drag, overlapping, follow through, secondary action, shot final with value add on and tricks and tips, Interaction of two characters with hand gestures, Fight sequence of two characters - Martial art.

Motion Builder:

Introduction and Overview, Exploring Motion Builder's navigation controls, Working with the Transport Controls, Animation with rigid bodies, Parenting and Aligning

objects, The Control Rig, Auxiliary Pivots, Motion capture data to a Character, Rigid body dynamics, Key frames Recording, Understanding character setup, Working with skeletons, Creating a custom camera, Rendering out movies for previews.

Books for reference:

- Animating Facial Features and Expressions by Bill Fleming, Darris Dobbs, Publisher: Charles River Media, 1999, 382 pages
- Art in Motion by Maureen Furniss, Publisher: John Libbey& Company Limited, 2007, 276 pages
- Horses and Other Animals in Motion: 45 Classic Photographic Sequences, Dover Anatomy for Artists Series by Eadweard Muybridge, Publisher: Dover Publ., 1985, 91 pages
- The Animator's Survival Kit--Revised Edition: A Manual of Methods, Principles and Formulas for Classical, Computer, Games, Stop Motion and Interne by Richard Williams, 2nd Edition, illustrated, Publisher: Faber & Faber, 2012, 392 pages
- The contemporary animator by John Halas, Publisher: Focal Press, 1990, Original from the University of California, 128 pages
- Character animation 2D skill for better 3D by Steve Roberts, 2nd Edition, Publisher: Focal Press, 2012, 240 pages

B.AVFX 5.3FX Elective: Visual Effects

Unit: I - 20 marks

Nuke:

Nuke Workflow, Merge Tools with basic Compositing, Transformation and Animation, Rotoscope, Shuffle & Shuffle Copy, Color Management, Color Management, Keying, Tracking, Stabilize, Introduction to 3D, Import Geometry, Camera and Lights, Shader, Camera Projection, 3D Tracking, Cleanup, Compose Render Passes, Stereoscope

Silhouette:

Introduction to Silhouette and roto static and moving shape, Roto for human body using multiple shapes and IK, Roto for slow movement and camera Jerky/Jitter shot, Roto of hair Roto for motion blur shot, Roto for 2D-3D conversion.

Mocha:

Introduction to Planar tracking and Mocha Interface, Tracking and stabilize technique, Rotoscopy workflow, Rotoscopy for stereoscopy-1, Export shape and tracking data into Aftereffects, Fusion and Nuke.

Unit: II - 20 marks

Advanced Rotoscopy and Stereoscopy:

Advanced Rotoscopy including hair, compiling the character with some BG or Matte, Stereoscopy Introduction, Stereocopic Rotocopy.

Vue:

Introduction, project overview and Interface, Terrain basics, Objects, Working with atmospheres, Materials, Cameras, Lighting in vue, Rendering scene, Animation in vue Intergration of 3ds max component and Vue, Creating a Mountain Scene, Creating a complete environment.

Unit: III - 20 marks

Thinking Particles:

Introduction to Thinking particles and recreating the Pflow default system in TP, Particle Collisions and Object Breaking, Working with Blurp for Particle morph, Working with Geo Instance, Working with Joints, Working with fragmentation - Pre broken, Working with fragmentation - Procedural (volume Breaker), TP with Fume FX, Creating crowd.

Ray Fire:

Intro to ray fire and wall break using various techniques of Fragmentation, Gate demolition, Tower explosion, Building demolition, Create wall break and create cracks with character interaction, Create car explosion using Fume FX and Ray fire.

Fume FX:

Intro to Fume FX and workflow, Working with different sources- object, particles, Realistic Fire Creating realistic explosion, creating large scale smoke, Creating magic smoke, Create plasma energy, Create dust and smoke, Fume FX - Case Study.

Unit: IV - 20 marks

Real Flow:

Workflow of Real flow, Real Flow Emitter and Particles Types, Global & Exclusive link, Object Emission in Real Flow- Filling glass with water, Glass filled with ice, pour coke in it, Importing and scaling 3D Geometry, Creating mesh and Interaction with 3D Geo, Importing Mesh into Maya and basic lighting, Shading, Ultra motion water splash with Rigid body, Ultra motion water splash with Rigid body, Grapes interaction with Fluids, Rigid Body and Soft Body Dynamics, Breaking Objects and optimizing Simulation, Real wave Surface, Rigid Body interaction with Real Wave- Creating a Shore line, Rigid Body interaction with Real Wave- Creating a Shore line, Morph Daemon, Magic Daemons, Hybrido, Realflow render kit in Maya with example tsunami in city.

PF-Track:

UI and basic workflow of PF Track, Basic auto tracking and solving, use of mask in auto tracking, How and when to use masking, manual tracking and solving. Proper selection of user feature, solving problem with combine of user feature and auto features. Calculated estimate focal length, solved zoom camera with steady and rotation camera, solved zoom camera with free motion, Solved lens distorted footage, geometry based tracking, object tracking using auto feature and user features. - Hard track, face expression track - Soft track.

Books for reference:

- Nuke 101: Professional Compositing and Visual Effects [Import] [Paperback] Ron Ganbar (Author)
- Digital Compositing with Nuke [Import] [Paperback] Lee Lanier (Author)
- Eyeon Fusion 6.3 Book, The Eyeon Fusion 6.3: A Tutorial Approach
- The Eyeon Fusion 6.2: A Tutorial Approach (Kindle Edition) Prof. Sham Tickoo Purdue Univ. CADCIM Technologies (Author)