

**CERTIFICATE COURSE IN GYM & AEROBIC INSTRUCTOR -  
THREE MONTHS PROGRAM UNDER LEARNING OUTCOME  
BASED CURRICULUM FRAMEWORK (LOCF) EXAMINATION  
W.E.F.SESSION 2020-21.**



**KURUKSHETRA UNIVERSITY**  
**KURUKSHETRA**  
(Established by the State Legislature Act XII of 1956)

# LOCF/CERTIFICATE COURSE IN GYM & AEROBIC INSTRUCTOR/KUK

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## ORDINANCE – CERTIFICATE COURSE IN GYM & AEROBIC INSTRUCTOR UNDER LEARNING OUTCOME BASED CURRICULUM FRAMEWORK (LOCF) EXAMINATION (From Session – 2020-21)

1. The duration of the program of instruction for the Certificate Course in Gym & Aerobic Instructor Examination shall be three months during 15<sup>th</sup> February to 15<sup>th</sup> May of the academic session. The intake of students will be 30 students and the admissions to the course shall be made once in an academic session.
2. The examination shall be held ordinarily in month of February on the dates notified by the Controller of Examinations.
3. The last date(s) by which the examination forms and fees must reach the Examination Enquiry shall be as per schedule at Appendix-I in the K.U. Calendar Vol.II.
4. A person who has passed one of the following examinations from this University or an examination recognized as equivalent thereto, shall be eligible to join the course:
  - (a) ***Bachelor's degree in any discipline with 45% marks.***
  - (b) ***In addition to 10% weightage as per University Rules, 5% additional Weightage will be given to the students having B.P.Ed./M.P.Ed. Degree.***
5. The examination shall be held according to the Scheme of examination and Syllabus as approved by the Academic Council from time to time.
6. A student who possesses the qualifications laid down in Clause 4 above, has been on the rolls of the Department for the program during the period mentioned in clause-1 above preceding the examination and produces the following certificates signed by the Chairman of the Department concerned, shall be eligible to appear in the examination:-
  - (a) of good character;
  - (b) of having attended not less than 75% of the full course of lectures in theory, practical and tutorial separately (the program to be counted up to the day before the commencement of the examination). Provided that a candidate who has not attended the requisite percentage of attendance for any paper(s)/practical(s) will be detained by the Department concerned to take the University examination in the said paper(s) unless he/she repeats the course in the paper(s)/practical(s) concerned and obtains the requisite percentage of attendance in that paper.
7. A deficiency in the prescribed program (Lectures/Practical/Tutorials) may be condoned by the Chairman of the Department concerned as under:

(a) Lectures	:	Up to 15% of the lectures delivered in each paper.
(b) Practical	:	Up to 5%.
(c) Tutorial Assignment	:	15%.

These shall also include loss of attendance due to participation in the cultural and sports assignments etc. Provided that, a student who participates in the Inter-university Tournaments/Youth festivals may be allowed additional condonation on this ground up to 10% in each paper on a certificate from the Director, Physical Education and Sports or the Director, Youth and Cultural Affairs Department, as the case may be subject to the condition that such a student shall not be allowed to appear in the examination if his/her attendance, after condonation on all counts, falls below 50%.



**Certificate Course in Gym & Aerobic Instructor (Three Months)**

S. No.	Paper No.	Paper Name	Marks	Internal Assessment	Total Marks	Passing Marks
1.	101 (Theory)	Theory of Gym and Aerobic Training	80	20	100	40
2.	102 (Practical)	Gym and Aerobic Training	100	-	100	50
<b>Total</b>			<b>180</b>	<b>20</b>	<b>200</b>	<b>90</b>

## **PROGRAMME OUTCOMES:-**

1. Learners will be able to comprehend the acquire knowledge during the Programme of study.
2. Learners will be able to reflect on the issues relating to the discipline-‘Education’.
3. Learners will be able to exhibit the professional skills and competencies acquired during the Programme of study.
4. Learners will be able to show scientific & research capabilities in their academic, professional and general life pursuits.
5. Learners will be able to apply the knowledge and skills acquired in academic planning, organizing, evaluation, decision making, resource management according to pre-determined objectives/outcomes.
6. Learners will be able to work as member or leader in various teams and multi-disciplinary & diverse settings.
7. Learners will be able to discuss and solve the problems relating to the discipline and life.
8. Learners will be able to state and follow the ethical issues relating to the discipline and society.
9. Learners will be able to apply different tools and techniques of communication and related skills.

## **PROGRAMME SPECIFIC OUTCOMES**

### **After completing the programme student- teacher will be able to:-**

1. apply and demonstrate different techniques of body composition for assessment general fitness level of male & female of all ages.
2. prepare & apply exercise programme for different muscles.
3. prepare plan for short & long duration training for muscles gain & fat loss.
4. enable exercise in different training zones like warming up zone, fat burning zones and endurance zone.
5. enhance & apply the knowledge of different Gym equipments, their handling & placement, clothing & footwear for training.

**Certificate Course in Gym & Aerobic Instructor (Three Months)**  
**Syllabus (w. e. f - 2016-17)**

**Paper – 101 (Theory of Gym and Aerobic Training )**

**Total Marks : 100**  
**(Theory Marks: 80 + Internal Assessment :20)**

**Time : Three Hours**

**Note: Paper setter is required to set 2 questions from each Unit - I, II, III and IV. Unit - V consists of 10 questions of short answers distributed from all over the syllabus. The candidates are required to attempt one question from each Unit – I, II, III & IV carrying 15 marks for each question. Unit - V is compulsory for all consisting 2 marks of each short answer.**

**Course Outcomes:-**

**After completion of the course contents of this paper, the student will be able to:**

- CCGA 101.1** assess body composition and fitness level through calculation of BMI, Body Fat Percentage with Skin Fold Caliper.
- CCGA 101.2** prepare workout programme for different muscles of body.
- CCGA 101.3** prepare weekly monthly training programme for muscle building and weight loss.
- CCGA 101.4** calculate different training zones, apply and select different gym equipments for fitness.

**SYLLABUS**

**Unit – 1: Body Composition and General Fitness Assessment**

Meaning of BMI, Calculation of BMI, BMI Chart  
Calculating Body Fat Percentage with Skin Fold Caliper (Male & Female),  
Ideal Body fat for male and female  
Assessment of Body Strength with dynamometer (Leg and Back), Lungs  
Capacity (Spiro-meter) and flexibility (Bend and Reach)  
Goal setting with your client with weekly and monthly objectives.

**Unit – 2: Exercise for various groups of Muscles**

Location of Major Muscles and name of exercise for: Upper Body - Biceps, Triceps, pectorials Major, Deltoid, Trapezes, latissimus Dorsi, Rectus Abdominals, External Oblique, Muscles of Fore arm and back arm  
Lower Body and name of exercise for: Gluteus group of muscles, hamstring group of muscles, Quadriceps group of muscles, Gastrocnemius, Soleus  
Name of exercises for the body core muscle.

## **Unit – 3: Training Schedule**

Structure of an Exercise Training Session

Structure of Weekly training Programme

Preparation of Weekly and Monthly Muscle Building workout schedule

Preparation of Weekly and Monthly Weight losing workout schedule

Exercise program writing: factors for consideration

## **Unit – 4: Aerobic Training and Gym Equipments**

Calculation of Heart Rate (HR) Training Zones: Warming up Zone, Fat Burning Zone,

Endurance Zone, Anaerobic Zone and Maximum Effort Zone

Introduction to exercise equipments

Types of exercise equipments

Placement of equipments

Handling and Utilization of equipments

Clothing and footwear for training

### **Suggested Readings:**

*Bunn, J.N. (1998) Scientific Principles of Coaching, New Jersey Engle Wood Cliffs, Prentice Hall Inc.*

*Cart, E. Klafs & Daniel, D. Arnheim (1999) Modern Principles of Athletic Training St. Louis C.V. Mosphy Company*

*Daniel, D. Arnheim (1991) Principles of Athletic Training, St. Luis, Mosby Year Book*

*Hardayal Singh (1991) Science of Sport Training, New Delhi, DVS Publications*

*Jensen, C.R. & Fisher A.G. (2000) Scientific Basic of Athletic Conditioning, Philadelphia*

*Ronald, P. Pfeiffer (1998) Concepts of Athletics Training 2<sup>nd</sup> Edition, London: Jones and Bartlett Publications*

*Yograj Thani (2003), Sport Training, Delhi: Sport Publications*

*Gupta, A. P. (2010). Anatomy and physiology. Agra: SumitPrakashan.*

*Gupta, M. and Gupta, M. C. (1980). Body and anatomical science. Delhi: Swaran Printing Press.*

*Guyton, A.C. (1996). Textbook of Medical Physiology, 9th edition. Philadelphia: W.B.Saunders.*

*Karpovich, P. V. (n.d.). Philosophy of muscular activity. London: W.B. Saunders Co.*

*Lamb, G. S. (1982). Essentials of exercise physiology. Delhi: Surjeet Publication.*

*Moorthy, A. M. (2014). Anatomy physiology and health education. Karaikudi: Madalayam Publications.*

*Morehouse, L. E. & Miller, J. (1967). Physiology of exercise. St. Louis: The C.V. Mosby Co.*

*Pearce, E. C. (1962). Anatomy and physiology for nurses. London: Faber & Faber Ltd.*

*Sharma, R. D. (1979). Health and physical education, Gupta Prakashan.*

*Singh, S. (1979). Anatomy of physiology and health education. Ropar: Jeet Publications.*





**Paper – 102 (Practical: Gym and Aerobic Training)**

**Total Marks: 100**

**Course Outcomes:**

**After completion of the course contents of this paper, the student will be able to:**

- CCGA 102.1** apply and demonstrate muscles strengthening exercises for upper and lower extremities.  
**CCGA 102.2** apply and demonstrate exercises on Swiss ball for different body parts.  
**CCGA102.3** apply and demonstrate aerobic exercise programme.  
**CCGA 102.4** apply and demonstrate stretching exercises for different body parts.

**SYLLABUS**

**1. Strengthening (with weight and without weight) exercise for:**

Upper Body Muscles - Biceps, Triceps, pectorials Major, Deltoid, Trapezes, latissimus Dorsi, Rectus

Abdominals, External Oblique, Muscles of Fore arm and back arm

Lower Body Muscles: Gluteus group of muscles, hamstring group of muscles,

Quadriceps group of muscles, Gastrocnemius, Solues

Core Body Muscles

**2. Exercises for different parts of body with Swiss ball.**

**3. Aerobic workout steps.**

**4. Flexibility/ stretching exercise for different body parts.**





**Attainment of COs:**

The attainment of Cos can be measured on the basis of the results of internal assessment and semester examination. The attainment is measured on scale of 3 after setting the target for COs attainment. Table 5 shows the CO attainment levels assuming the set target of 60% marks:

**Table 5 : CO Attainment Levels for internal assessment.**

<b>Attainment Level</b>	
<b>1</b> <b>(Low level of attainment)</b>	<b>50% of students score more than 50% of marks in class tests of a course.</b>
<b>2</b> <b>(Medium level of attainment)</b>	<b>60% of students score more than 50% of marks in class tests of a course.</b>
<b>3</b> <b>(High Level of attainment)</b>	<b>70% of students score more than 50% of marks in class tests of a course.</b>

*Note: In the above table, the set target is assumed as 50%. It may vary in different departments/institutes. The staff Councils of the departments/institutes may finalize the set target*

A proper mapping of course outcomes with assessment methods should be defined before measuring the attainment level. The questions in tests for internal assessment are based on COs. Here it is assumed that class test – I is based on first two COs (i.e. CCGA 101.1 and CCGA 101.2) of a course with equal weightage given to both COs. Similarly class test – II is based on next two COs (i.e. CCGA 101.3 and CCGA 101.4) of a course with equal weightage given to these two COs. For each internal assessment test, the percentage of students attaining the target level of CO is estimated and average percentage will decide the attainment level of COs. Following steps may be followed for determining the attainment level in internal assessment of course.

- i. Estimate the %age of students scoring set target (say 50%) or more in the questions of test-I based on first CO i.e. CCGA 101.1
- ii. Estimate the %age of students scoring set target (50%) or more in the question(s) of test-I based on second CO i.e. CCGA 101.2
- iii. Estimate the %age of students scoring set target (50%) or more in the question(s) of test-II based on third CO i.e. CCGA 101.3
- iv. Estimate the %age of students scoring set target (50%) or more in the question(s) of test-II based on fourth CO i.e. CCGA 101.4
- v. Take average of the percentages obtained above.
- vi. Determine the attainment level i.e. 3, 2 or 1 as per scale defined in table 5.

*Note: In the above steps, it is assumed that internal assessment is based on two tests only. However if internal assessment is based on more than two tests and/or on assignment then same may be incorporated*

to determine the CO attainment level. There may be more than four COs for a course. The set target may also be different for different Cos. These issues may be resolved by the Staff Councils of the departments/institutes.

For determining the attainment levels for end semester examination, it is assumed that questions in the end term examination are based on all COs of the course. Attainment levels for end semester examination of a course can be determined after the declaration of the results. The CO attainment levels for end semester examination are given in Table 6.

**Table 6 : CO Attainment Levels for End Semester Examination (ESE)**

<b>Attainment Level</b>	
<b>1</b> <b>(Low level of attainment)</b>	<b>60% of students obtained letter grade of A or above (for CBCS programs) or score more than 60% of marks (for non-CBCS programs) in ESE of a course.</b>
<b>2</b> <b>(Medium level of attainment)</b>	<b>70% of students obtained letter grade of A or above (for CBCS programs) or score more than 60% of marks (for non-CBCS programs) in ESE of a course.</b>
<b>3</b> <b>(High Level of attainment)</b>	<b>80% of students obtained letter grade of A or above (for CBCS programs) or score more than 60% of marks (for non-CBCS programs) in ESE of a course.</b>

*Note: In the above table, the set target is assumed as grade A for CBCS courses and 60% for non-CBCS courses. It may vary in different departments/institutes. The staff Councils of the departments/institutes may finalize the set target.*

### **Overall CO Attainment level of a Course:**

The overall CO attainment level of a course can be obtained as:

Overall CO attainment level = 50% of CO attainment level in Internal assessment + 50% of Co Attainment level in end semester examination.

The overall COs attainment level can be obtained for all the courses of the program in a similar manner.

**Attainment of POs:**

The overall attainment level of POs is based on the values obtained using direct and indirect methods in the ratio of 80:20. The direct attainment of Pos is obtained through the attainment of COs. The overall CO attainment value as estimated above and CO-PO mapping value as shown in Table 4 are used to compute the attainment of POs. PO attainment values obtained using direct method can be written as shown in the Table 7.

**Table 7: PO Attainment Values using Direct Method**

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9
CCGA 101									
CCGA 102									
Direct PO attainment	Average of above values	Average of above values	Average of above values	--	--	--	--	--	Average of above values

The PO attainment values to be filled in above table can be obtained as follows:

For CCGA 101-PO1 Cell:

PO1 attainment value = (Mapping factor of CCGA 101-PO1 from Table 4 x Overall CO attainment value for the course CCGA 101)/3

For CCGA 104-PO1 Cell:

PO1 attainment value = (Mapping factor of CCGA 104-PO1 from Table 4 x Overall CO attainment value for the course CCGA 104)/3

Similarly values for each cell of Table 7 can be obtained. The direct attainment of POs is average of individual PO attainment values.

In order to obtain the PO attainment using indirect method, a student exit survey based on the questionnaire of POs may be conducted at end of last semester of the program. The format for the same is given in Table 8. Average of the responses from the outgoing students for each PO is estimated.

The overall PO attainment values are obtained by adding attainment values estimated using direct and indirect methods in the proportion of 80:20 as follows:

Overall attainment value for PO1 =[0.8 x average attainment value for PO1 using direct method (from table 7)] + [0.2 x average response of outgoing students for PO1].

Similarly overall attainment value can be obtained for each PO.





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The overall PO attainment values obtained above are compared with set target. The set target for each PO may be different and can be finalized by the staff councils of the departments/institutes. If overall PO attainment value is less than the set target value then an action plan may be prepared for improvement in the subsequent academic session.

**The overall PSO attainment level based on CO-PSO mapping values and overall CO attainment values can be obtained in a similar manner as above.**

